COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Doswell Limited Partnership
Ashland, Virginia
Permit No. PRO51018

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have Federal Air Pollution Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Doswell Limited Partnership has applied for a Federal Operating Permit for its Doswell, Virginia facility. The Department has reviewed the application and has prepared a draft Federal Operating Permit.

Engineer/Permit Contact:_____ Date:_____

Air Permit Manager:_____ Date:_____

Regional Deputy Director:_____ Date:_____

FACILITY INFORMATION

Permittee
Doswell Limited Partnership
Doswell Energy Center
10098 Old Ridge Road
Ashland VA 23005

Facility

Doswell Energy Center
10098 Old Ridge Road
Ashland VA 23005

Responsible Official
Mr. Thomas R. Grieser
Assistant Secretary
(561) 625-7403

Contact person
Ms. Anita Seigworth
Senior Plant Leader
(804) 227-2077

Acid Rain Designated Representative
Mr. Manuel Sanchez
General Manager
Authorized Account Representative (AAR) ID No. 2058
USEPA ID number - 052019
(804) 227-3330

AIRS Identification Number: 51-085-0061
ORIS Code ID: 52019

NATS Facility Identification Number: 052019

Facility Description: SIC Code Number - 4911and NAICS ID Code 221112.

The facility is an independent power production facility. Natural gas is received via gas pipelines and backup No. 2 Fuel Oil is available to fire up to four Kraftwerk Union V84.2 (120 MW) – combined cycle combustion turbines and associated John Zinc duct burners and one GE 7FA simple cycle combustion turbine (190 MW at an ambient temperature of approximately 20^{o} F). Other auxiliary equipment includes a natural gas-fired (No. 2 Fuel Oil backup) Zurn boiler rated at 40.0 mmBtu/hr, one Cummins-West emergency generator fueled by No. 2 Fuel Oil, one Caterpillar 3208DITA Fire Pump fueled by No. 2 Fuel Oil and two (2) 7.6 million gallon fuel oil storage tanks. Fugitive VOC emissions due to fuel storage and handling are estimated to be less than 0.5 tons/year.

The Kraftwerk turbines were originally installed in June 1991 and the GE turbine was added in January 2001. All five turbines are subject to the requirements of 40 CFR 60, Subpart GG. The duct burners are subject to 40 CFR 60 Subpart Da, the auxiliary boiler is subject to 40 CFR 60, Subpart Dc and the fuel oil service tanks are subject to 40 CFR 60, Subpart Kb (recordkeeping only). The facility is a major source of PM10, SO2, NOx, CO and VOC pollutants under the Federal Operating Permit Program. This source is located in an attainment area for all pollutants, and is a PSD major source. The combined cycle facility was previously permitted under a PSD Permit issued on May 4, 1990, and last amended on October 30, 2002. The addition of the GE turbine was considered a major modification under the PSD regulations. A PSD permit for the addition of the GE turbine was issued April 7, 2000 and last amended on October 27, 2002. This Federal Operating Permit incorporates the permit conditions for both the combined cycle facility and the new turbine, which will be operated in simple cycle mode. The combined cycle facility is not regulated under the acid rain program.

COMPLIANCE STATUS

The facility is inspected on an annual basis and has been in compliance. Last inspection was conducted on August 13, 2002.

Equipment:
The Emission Units and equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Equipment							
11	1	Combined Cycle Combustion Turbine 501 – Kraftwerk Union Model V84.2 (Constructed: 5-1995) Firing no. 2 fuel oil – standby	1237 mmBTU/hr. - input 122 MW – output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design), Mitsubishi (SCR) 64%	CE1	NOx	10/30/03
12		Firing natural gas – primary	1261 mmBTU/hr. – input 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design), Mitsubishi (SCR) 54%			
13	1	Heat Recovery Steam Generator (HRSG) with duct burner - John Zinc (Constructed: 6-1990) Firing no. 2 fuel oil standby	266 mmBTU/hr. – input $500x10^3$ Lb/hr. steam output	Note: the duct burners are before the SCR. The SCR controls NOx for both the CT and DB.	-		10/30/03

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
14		Firing natural gas	241 mmBTU/hr. - input $455x10^3$ Lb/hr. steam output				
21	2	Combined Cycle Combustion Turbine 502 – Kraftwerk Union Model V84.2 (Constructed: 6-1990) Firing no. 2 fuel oil – standby	1237 mmBTU/hr. – input 122 MW – output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design), Mitsubishi (SCR) 64%	CE2	NOx	10/30/03
22		Firing natural gas – primary	1261 mmBTU/hr. - input 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design), Mitsubishi (SCR) 54%			

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
23	2	Heat Recovery Steam Generator (HRSG) (502) with duct burner John Zinc (Constructed: 6-1990) Firing no. 2 fuel oil - standby	266 mmBTU/hr - input 500x10^3 Lb/hr. steam output	-	-	-	10/30/03
24		Firing natural gas – primary	241 mmBTU/hr - input 455x10^3 Lb/hr. steam				
31	3	Combined Cycle Combustion Turbine 601 – Kraftwerk Union Model V84.2 (Constructed: 6-1990) Firing no. 2 fuel oil - standby	1237 mmBTU/hr. - input 122 MW – output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 64%	CE3	NOx	10/30/03
32		Firing natural gas – primary	1261 mmBTU/hr. - input 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 54%			

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
33	3	Heat Recovery Steam Generator (HRSG) (601) with duct burner – John Zinc (Constructed: 6-1990) Firing no. 2 fuel oil	266 mmBTU/hr - input 500x10^3 Lb/hr. steam output	-	-		10/30/03
34		Firing natural gas – primary	241 mmBTU/hr – input 455x10^3 Lb/hr. steam output				
41	4	Combined Cycle Combustion Turbine (602) – Kraftwerk Union Model V84.2 (Constructed: 6-1990) Firing no. 2 fuel oil – standby	1237 mmBTU/hr – input 122 MW – output	SCR, steam injection and burner design Kraftwerk Union (steam injection and burner design) Mitsubishi (SCR) 64%	CE4	NOx	10/30/03
42		Firing natural gas – primary	1261 mmBTU/hr. – input 122 MW – output	SCR, steam injection or burner design Kraftwerk Union (steam injection and burner design) Mitsibishi (SCR) 54%			

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
43	4	Heat Recovery Steam Generator (HRSG) with duct burner (602) – John Zinc (Constructed: 6-1990) Firing no. 2 fuel oil – standby	266 mmBTU/hr. – input 500x10^3 Lb/hr. steam output	-	-	-	10/30/03
44		Firing natural gas – primary	241 mmBTU/hr.- input 455x10^3 Lb/hr. steam output				
51	5	Auxiliary boiler – Zurn (Constructed: 6-1990) Firing no. 2 fuel oil – standby	40 mmBTU/hr. - input 34,000 Lb./hr. steam output	-	-	-	10/30/03
52		Firing natural gas – primary	40 mmBTU/hr. - input 31,000 Lb/hr. steam output				
61	6	Fire Pump – Caterpillar 3208DITA (Constructed: 6-1990) Firing no. 2 fuel oil	1.4 mmBTU/hr. - input 145 BHP – output	-	-	-	10/30/03

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
71	7	Emergency Generator – Cummins-West KTTA19-02 (Constructed: 6-1990) Firing no. 2 fuel oil	4mmBTU/hr. - input 45Kw – output	-	-	-	10/30/03
81	8	Simple Cycle Combustion Turbine CT1- GE7FA (Constructed: 2-2001) Firing No. 2 distillate oil – standby	1932.4 mmBTU/hr – input 190.5 MW – output	Burner design and water injection GE 61%	CE5	NOx	10/27/03
82		Firing natural gas - primary	1752.2 mmBTU/hr – input 185 MW – output	Burner design GE 92%			
111	NA	Fuel Oil Storage Tank A (Constructed: 6-90)	Fixed roof storage tank 7.6 million gallons	-	-	-	10/30/03
112	NA	Fuel Oil Storage Tank B (Constructed: 6-90)	Fixed roof storage tank 7.6 million gallons	-	-	-	10/30/03

EMISSIONS INVENTORY

A copy of the 2002 annual emission update is available. Emissions are summarized in the following tables.

2002 Actual Emissions

	2002 Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO_2	PM_{10}	NO_x
11/12 & 13/14 (501)	3.42	29.32	0.17	9.69	55.93
21/22 & 23/24 (502)	3.32	28.65	0.25	9.45	54.60
31/32 & 33/34 (601)	2.69	23.13	0.12	7.60	43.98
41/42 & 43/44 (602)	2.76	23.80	0.11	7.80	45.22
51/52 (Aux. Boiler – Zurn)	0.096	1.46	0.002	0.132	2.16
61 (Fire Pump)	0.00	0.027	0.008	0.009	0.07
71 (Emergency Generator)	0.01	0.039	0.01	0.01	0.19
81/82 (CT1)	1.59	11.81	0.082	5.06	37.32
Total	13.88	118.23	1.50	39.74	239.48

2002 Facility Hazardous Air Pollutant Emissions (as per source)

Pollutant	2002 Hazardous Air Pollutant Emission in Tons/Yr
Ammonia	53.97
Beryllium	0.003
Formaldehyde	1.12
Nickel	0.0009
Lead	0.0003

EMISSION UNIT APPLICABLE REQUIREMENTS - [Combustion Turbine/HRSG and Auxiliaries]

Periodic Monitoring for the four (4) combined cycle combustion turbines – Kraftwerk Union Model V84.2 (emission unit ID #s 11/12, 21/22, 31/32, and 41/42), four (4) heat recovery steam generators with duct burners (emission unit ID#s 13/14, 23/24, 33/34, and 43/44), one (1) auxiliary boiler – Zurn (emission unit ID#s: 51/52), one emergency generator – Cummins-West KTTA19-02 (emission unit ID#: 71), fire pump - Caterpillar 3208DITA (emission unit ID#: 61), and two (2) fuel oil storage tanks A&B (emission unit ID#s: 111 and 112).

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. The information listed below describes the periodic monitoring requirements for all of the applicable requirements for significant sources in the NSR permit issued on October 30, 2003. The requirements are generally contained in the permit issued on October 30, 2003 but some conditions have been developed to ensure that the periodic monitoring requirements of 9 VAC 5-80-110 E.2. have been met.

Specific Condition 3 of the October 30, 2003 NSR permit (Condition III.A1. of the Title V permit):
Limitations: Nitrogen oxide emissions from each combined cycle combustion turbine Heat Recovery Steam Generator (HRSG) duct burner (emission unit ID #s: 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, and 43/44) shall be controlled by either combustor design or by steam injection followed by a selective catalytic reduction system when burning natural gas and by steam injection followed by selective catalytic reduction when burning distillate oil. Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for general condition no. 3 of the October 30, 2003 NSR permit (condition no. III.B.8. in the Title V permit) to:

> General Condition no. 3:
> The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.
>
> The *three years* in the condition had to be changed to *five years* for Title V purposes.
>
> Doswell Limited Partnership monitors the “combustor design” by the control panel denoting

which burner mode it is in and whether it is in a premixed combustion mode or whether it is in a diffusion flame mode. In addition, the steam injection and SCR are monitored in the same manner by the control panel giving a readout (respectively) of the steam injection rate and the ammonia injection rate.

Specific Condition 4 of the October 30, 2003 NSR permit (Condition III.A.2. of the Title V permit):
Limitations: Sulfur dioxide emissions from each combined cycle combustion turbine/HRSG duct burner (emission unit ID #s: 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, and 43/44) and auxiliary boiler (emission unit ID #: 51/52) shall be controlled by using low sulfur fuels.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition nos. 25, 26 and 30 (respectively) of the October 30, 2003 NSR permit (condition no. III.A.22, 23 and B.3.of the Title V permit) :

Specific Condition no. 25:
The approved fuels for the facility are pipeline quality natural gas (natural gas that is provided by a supplier through a pipeline) and No. 2 fuel oil. A change in the fuel may require a permit to modify and operate.

The April 9, 1990 engineering analysis for the May 4, 1990 permit (amended February 13, 1991) stated the following:

"BACT for this project will be use of low sulfur fuels, i.e., pipeline quality natural gas as primary fuel and 0.2% fuel oil auxiliary. EPA has traditionally recognized natural gas as the lowest sulfur fuel."

As a result, the following condition denoting 0.05% by weight maximum allowable sulfur content for no. 2 fuel oil more than meets the low sulfur fuels requirement as well as the use of natural gas.

Specific Condition no. 26:

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

Specific Condition no. 30 (which includes the January 9, 1998 EPA approved alternative monitoring frequency for natural gas sulfur content):
Doswell Limited Partnership shall monitor the sulfur content of the No. 2 fuel oil being fired in the combined cycle combustion turbines in accordance with 40 CFR 60 Section 60.334(b). In accordance with the approved modified testing schedule Doswell Limited Partnership shall monitor the natural gas sulfur content twice per annum during the first and third quarter of each calendar year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division and the Piedmont Regional Office of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this custom schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel monitoring schedule. Records associated with the custom fuel monitoring schedule shall be retained for a period of five (5) years.

Specific Condition 5 of the October 30, 2003 NSR permit (Condition III.A.3. of the Title V permit):
Limitations: Volatile organic compound emissions from the No. 2 fuel oil storage tanks (emission unit ID #s: 111 and 112) shall be controlled by a fixed roof design with a pressure vacuum valve. Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for conditions III.B.6 in the Title V permit as follows:

Records shall be kept demonstrating the pressure vacuum valves are in good operating order and the fixed roofs are in acceptable condition.

Specific Condition 6 of the October 30, 2003 NSR permit (Condition III.A.4. of the Title V permit):
Limitations: Each combined cycle combustion turbine (emission unit ID #s: 11/12, 21/22, 31/32 and 41/42) shall consume no more than 11.9×10^9 cubic feet of natural gas or 20.6×10^6 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive 12 month period. No. 2 fuel oil usage shall be limited to 2,160* hours per year, calculated monthly as the sum of each consecutive 12 month period and shall only be used when natural gas is not available, supply is interrupted, or reliability testing is being conducted on the equipment. Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition no. 29 and general condition no. 3 of the October 30, 2003 NSR permit (conditions III.B.2. and B.8. in the Title V permit) which will be as according to the EPA alternative monitoring plan which requires continuous monitoring of the consumption of fuel oil and natural gas by the use of flow meters for consumption of the various fuels for each unit.

*: The *2,160 hours per year equates to the 20.6* $\times 10^6$ gallons per year of No. 2 fuel oil.

Specific Condition no. 29:
Continuous monitoring systems shall be installed to monitor and record the fuel oil and

natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

As stated in the EPA approved alternative monitoring plan for Combined Cycle Emissions Subject to Subparts GG and Da of 40 CFR Part 60(October 20, 1994):

Pre-existing source monitoring equipment and procedures are used to determine fuel flow rates and heat input. Fuel flow rates are determined by using ASME, ISO and AGA standards. Fuel gas flow to the combustion turbine is calculated using a flowmeter, a gas density meter and pressure meter and temperature transmitters. The fuel oil flow is determined using a turbine-proximity flowmeter. Duct burner fuel flow rates are measured with an ASME/ISO flow venturi, and a differential pressure transmitter is used for measuring gas flow. An ASME orifice with a differential pressure transmitter is installed for measuring oil flow. The venturis and orifices inspections are, at a minimum, scheduled every five years. Flowmeters and gas density meters are inspected annually and calibrated every three years and transmitters are calibrated and/or inspected annually. These procedures are outlined in the facility's preventive maintenance program.

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current five year period.

Specific Condition no. 7 of the October 30, 2003 NSR permit (Condition III.A.5. of the Title V permit):

Limitations: Each duct burner (emission unit ID #s: 13/14, 23/24, 33/34, and 43/44) shall consume no more than 1.6×10^9 cubic feet per year of natural gas or 4.43×10^6 gallons per year, calculated monthly as the sum of each consecutive 12 month period of No. 2 fuel oil, based on the lower heating value of the fuels. Number 2 fuel oil usage shall be limited to 2,160* hours per year, calculated monthly as the sum of each consecutive 12 month period and shall only be used when natural gas is not available, supply is interrupted or reliability testing is being conducted on the equipment. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition no. 29 and general condition no. 3 of the October 30, 2003 NSR permit (conditions III.B.2. and 8.. in the Title V permit) which will be as according to the EPA alternative monitoring plan which requires continuous monitoring of the consumption of fuel oil and natural gas by the use of flow meters for consumption of the various fuels for each unit.

*: The 2,160 hours per year equate to the 4.43×10^6 gallons per year of No. 2 fuel oil, based on the lower heating value of the fuels.

Specific Condition no. 29:

Continuous monitoring systems (shall be installed to monitor and record the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

As stated in the EPA approved alternative monitoring plan (October 20, 1994):

Pre-existing source monitoring equipment and procedures are used to determine fuel flow rates and heat input. Fuel flow rates are determined by using ASME, ISO and AGA standards. Fuel gas flow to the combustion turbine is calculated using a flowmeter, a gas density meter and pressure meter and temperature transmitters. The fuel oil flow is determined using a turbine-proximity flowmeter. Duct burner fuel flow rates are measured with an ASME/ISO flow venturi, and a differential pressure transmitter is used for measuring gas flow. An ASME orifice with a differential pressure transmitter is installed for measuring oil flow. The venturis and orifices inspections are, at a minimum, scheduled every five years. Flowmeters and gas density meters are inspected annually and calibrated every three years and transmitters are calibrated and/or inspected annually. These procedures are outlined in the facility's preventive maintenance program.

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

For Title V purposes the records shall be maintained for five years rather than the three year period as required in the NSR permit.

Specific Condition 8 of the October 30, 2003 NSR permit (Condition III.A.6. of the Title V permit):

Limitations: The auxiliary boiler (emission unit ID #: 51/52) shall consume no more than 3.50×10^8 cubic feet of natural gas or 6.27×10^5 gallons of No. 2 oil a year, calculated monthly as the sum of each consecutive 12 month period. Number 2 fuel oil shall only be used when natural gas is not available, supply is interrupted, or reliability testing is being conducted on the equipment. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition no. 27 (records for N.G.) and specific condition no. **20** (**records for fuel oil** are not specifically designated; however, it is implied in order to be able to insert the fuel consumption rate of fuel oil and natural gas) (respectively) (However, general condition no. 3 of the October 30, 2003 NSR permit should complete this recordkeeping requirement) of the October 30, 2003 NSR permit (conditions III.A.24, 18, and B.8.. in the Title V permit) which will be as according to: the following:

Specific Condition no. 27*:
Based on the gas analysis for sulfur content, annual allowable sulfur dioxide emissions shall be calculated as follows:

Combined Cycle Combustion Turbine: (Per Unit)

$$SO2 = S \frac{\text{Dec. SCFNG}}{\text{Jan. Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} + 295$$

Duct Burner: (Per Unit)

$$SO2 = S \frac{\text{Dec. SCFNG}}{\text{Jan. Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} + 57.5$$

Auxiliary Boiler:

$$SO2 = \mathbf{S} \frac{\textbf{Dec. SCFNG}}{\textbf{Jan. Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} + 9.6$$

Doswell Limited Partnership **shall keep monthly records of natural gas consumption for each of the above units** and total sulfur analysis for the purpose of computing the allowable emission rates. The sulfur analysis shall be performed in accordance with the alternative sampling schedule that has been approved by the Environmental Protection Agency.

Specific Condition no. 20:
Not withstanding, conditions III. A. 12, 13, 15 and 16 of this permit, at no time shall total Volatile Organic Compound (VOC) emissions for the entire combined cycle facility exceed 213 tons per year. The Volatile Organic Compound emissions shall be calculated as follows:

$$VOC = (NG_{(ct)})(0.003 \text{ lbs}/10^3 \text{ ft}^3) + (NG_{(db)})(0.009 \text{ lbs}/10^3 \text{ ft}^3)$$

$$+ \mathbf{(NG_{(ab)})}(0.12 \text{ lbs}/10^3 \text{ ft}^3) + (FO_{(ct)})(0.82 \text{ lbs}/10^3 \text{ gal})$$

+ $(FO_{(db)})(11.82\ lbs/10^3\ gal)$ + **$(FO_{(ab)})$**$(21.94\ lbs/10^3\ gal)$

+ $(FO_{(dg)})(19.60\ lbs/10^3\ gal)$ + $(FO_{(st)})$

Where:
$NG_{(ct)}$ is the amount of natural gas fired in the combined cycle turbine (10^3 scf),
$NG_{(db)}$ is the amount of natural gas fired in the duct burner (10^3 scf),
$NG_{(ab)}$ is the amount of natural gas fired in the auxiliary boiler (10^3 scf),
$FO_{(ct)}$ is the amount of fuel oil fired in the combined cycle combustion turbines (10^3 gallons),
$FO_{(db)}$ is the amount of fuel oil fired in the duct burner (10^3 gallons),
$FO_{(ab)}$ is the amount of fuel oil fired in the auxiliary boiler (10^3 gallons),
$FO_{(dg)}$ is the amount of fuel oil fired in the diesel generator (10^3 gallons), and
$FO_{(st)}$is the amount of VOCs emitted during storage and handling of fuel oil (lbs.).

General Condition no. 3:

The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

For Title V purposes the records shall be maintained for five years rather than the three year period as required in the NSR permit.

Specific Condition no. 9 of the October 30, 2003 NSR permit (Condition III.A.7. of the Title V permit):

Limitations: The emergency generator (emission unit ID #: 71) shall consume no more than 29,010 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive 12 month period. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 (conditions III.B.8. in the Title V permit) which will be as according to the following.

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

The emergency generator has its own designated fuel tank. The fuel consumption is calculated using the operating hours times the rated fuel flow. The operating hours are recorded in the plant data system (PI). The fuel consumption is tracked by calculation only.

Specific Condition 10 of the October 30, 2003 NSR permit (Condition III.A.8. of the Title V permit):

Limitations: The emergency generator (emission unit ID #: 71) shall operate no more than two (2) hours in any given twenty four hour period concurrently with the operation of the combined cycle combustion turbines (emission unit ID #s: 11/12, 21/22, 31/32, and 41/42) and auxiliary boiler (emission unit ID #:51/52) on distillate oil, except during an emergency. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 (conditions III.B.8. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

The Data Acquisition Handling System (DAHS) records the operating hours on a continuous basis.

From the most recent inspection report:

"The emergency generator is not operated concurrently with the turbines or auxiliary boiler. Records would be maintained if the operation had to occur due to an emergency situation."

In addition, an interlock prevents the auxiliary boiler and duct burners from being fired together.

The combined cycle combustion turbines' operating hours are tracked by the CEMS. Along with the hours, the DAHS records which fuel is being burned.

Specific Condition 11 of the October 30, 2003 NSR permit (Condition III.A.9. of the Title V permit):

Limitations: The emergency fire water diesel pump (emission unit ID #: 61) shall consume no more than 10,400 gallons of No. 2 fuel oil per year, calculated monthly as the sum of each consecutive 12 month period. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 (conditions III.B.8. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

The emergency fire water diesel pump has its own designated fuel tank. Calculation of the fuel consumption is based on operating hours and rated fuel flow. The operating hours are recorded by the Process Instrumentation (PI). The fuel consumption is tracked by calculation only.

Specific Condition 12 of the October 30, 2003 NSR permit (Condition III.A.10. of the Title V permit):

Limitations: No combined cycle combustion turbine (emission unit ID #: 11/12, 21/22, 31/32 and 41/42) shall operate at less than conditions corresponding to 65 percent of maximum load, except during start-up, shutdown, malfunction and emergency situations. Please note that maximum load of the combustion turbine is corrected to ambient conditions. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 in the October 30, 2003 NSR permit (conditions III.B.8.. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

Doswell Limited Partnership monitors the "% of the maximum load of the combustion turbine" by the control panel denoting the "% of the maximum load of the combustion turbine".

Specific Condition 13 of the October 30, 2003 NSR permit (Condition III.A.11. of the Title V permit):

Limitations: If unable to dispose of old fuel stock or prevent sedimentation and/or degradation during gas supply interruption, Doswell Limited Partnership shall be allowed to burn No. 2 fuel oil in its equipment (emission unit ID #s: 11, 21, 31, 41, 51, 61 and 71). Oil burning for this purpose will not be allowed in the months of June, July and August except for the purpose of equipment reliability and/or emission testing. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 and specific condition no. 29 in the October 30, 2003 NSR permit (condition nos. III.B.8. and 2.in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current five year period.

Specific Condition no. 29:
Continuous monitoring systems shall be installed to monitor and record* the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

*: The continuous monitoring systems record continuously.

In addition, there is a read out of the fuel flow data on the control panel and on the DAHS. The fuel flow data is continuously recorded in the DAHS and the plant data system.

Specific Condition 14 of the October 30, 2003 NSR permit (Condition III.A.12. of the Title V permit):

Limitations: Criteria pollutant emissions from the operation of each of the combined cycle combustion turbines (emission unit ID #s: 11/12, 21/22, 31/32, and 41/42) shall not exceed the limitations specified below:

Combined Cycle Combustion Turbine Operating on Natural Gas

PM10	2.6×10^{-2} lbs/10^6 BTU	33.0 lbs/hr/turbine
SO2	2.9×10^{-3} lbs/10^6 BTU	3.7 lbs/hr/turbine
CO		25.0 lbs/hr/turbine
VOC		4.4 lbs/hr/turbine

NOx emission limits shall be calculated as stated in condition III.A.14 of this permit.

Combined Cycle Combustion Turbine Operating on No. 2 Oil

PM10	2.0×10^{-2} lbs/10^6 BTU	24.7 lbs/hr/turbine
SO2	7.1×10^{-2} lbs/10^6 BTU	88.9 lbs/hr/turbine
CO		29.0 lbs/hr/turbine
VOC		7.8 lbs/hr/turbine
Pb		1.7×10^{-2} lbs/hr/turbine

NOx emission limits shall be calculated as stated in condition III A.14 of this permit. When oil and natural gas are fired simultaneously, total emissions limits for the combination of a combined cycle combustion turbine and duct burner shall not exceed the sum of applicable fuel specific emission limits specified in conditions III A.12 and 13.

Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 29, 30, 26 and 28 in the October 30, 2003 permit (conditions III.B.2.,3., A.23 and B.1. in the Title V permit) which will be as according to the following:

Specific Condition no. 29:
Continuous monitoring systems shall be installed to monitor and record* the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

*: The continuous monitoring systems record continuously and the information is available on the control panel.

Specific condition no. 30:
Doswell Limited Partnership shall monitor the sulfur content of the no. 2 fuel oil being fired in the combined cycle combustion turbines (emission unit ID #s: 11/12, 21/22, 31/32, and 41/42) in accordance with **40 CFR 60 Section 60.334(b)**. In accordance with the approved modified testing schedule Doswell Limited Partnership shall monitor the natural gas sulfur content twice per annum during the first and third quarter of each calendar year. If any sulfur analysis indicates noncompliance with **40 CFR 60.333** the owner or operator shall **notify** the US EPA Regional Office Air Division and the Piedmont Regional Office of such excess emissions and the custom fuel monitoring schedule shall be conducted twice weekly during the interim period when this custom schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. **Records associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years**.

Specific Condition no. 26:

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

Specific Condition no. 28:
Continuous emissions monitoring systems (CEMS) shall be installed on each HRSG exhaust stack to measure and record*, the concentration of nitrogen oxides, and oxygen emitted from the combined combustion turbine and duct burner exhaust. They shall be maintained and calibrated in accordance with 40 CFR, Part 75, Appendix B in lieu of 40 CFR, Part 60, Appendix B and Appendix F. A 30 day notification prior to the demonstration of continuous monitoring system performance and subsequent notification requirements, are to be submitted to the Department (Director, Piedmont Regional Office). .

*: The data is recorded continuously.

Specific Condition 15 of the October 30, 2003 NSR permit (Condition III.A.13. of the Title V permit):

Limitations: Criteria pollutant emissions from each duct burner (emission unit ID #s: 13/14, 23/24, 33/34, and 43/44) shall not exceed the limitations specified below:

Natural Gas

PM10	1.92 X 10^{-2} lbs/10^{6} BTU	4.6 lbs/hr/duct burner
SO2	3.1 X 10^{-3} lbs/10^{6} BTU	0.8 lbs/hr/duct burner
CO		19.7 lbs/hr/duct burner
VOCs		2.4 lbs/hr/duct burner

No. 2 Fuel Oil

PM10	3.0 X 10^{-2} lbs/10^{6} BTU	8.0 lbs/hr/duct burner
SO2	6.5 X 10^{-2} lbs/10^{6} BTU	17.3 lbs/hr/duct burner
CO		27.0 lbs/hr/duct burner
VOCs		24.0 lbs/hr/duct burner
Pb		0.005 lbs/hr/duct burner

When oil and natural gas are fired simultaneously (note: duct burners do not have the capability to burn natural gas and oil simultaneously), total emission limits for the combination of a combined cycle combustion turbine and duct burner shall not exceed the sum of applicable fuel specific emission limits specified in conditions III A.12 and 13.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to

the monitoring and recordkeeping, for specific condition no. 29 and 26 of the October 30, 2003 NSR permit (conditions III.B.2. and 23 in the Title V permit) which will be as according to the following:

Specific Condition no. 29:
Continuous monitoring systems shall be installed to monitor and record* the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

*: The data is continuously recorded by the DAHS and has alarming to warn the operators if the monitored concentration is approaching/exceeding the calculated allowable. The NO_x data is also sent and alarmed by the plant DCS.

Specific Condition no. 26:

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

Specific Condition 16 of the October 30, 2003 NSR permit (Condition III.A.14. of the Title V permit):
Limitations: The combined cycle combustion turbine (emission unit ID #s: 11/12, 21/22, 31/32, and 41/42), duct burner combination (emission unit ID #s: 13/14, 23/24, 33/34, and 43/44) Nitrogen Oxide (NOx) emissions shall not exceed the emission limit resulting from the calculation of the following from the equation in ppmvd corrected to 15% O_2:

$$E_s = \frac{[(H_{db\text{-}gas} * 0.10) + (H_{db\text{-}oil} * 0.12)+(H_{ct\text{-}gas} * 0.0332) + (H_{ct\text{-}oil} * 0.1166)] * 5.9}{(1.194 * 10^{-7}) * [8710 * (H_{db\text{-}gas} + H_{ct\text{-}gas}) + 9190 * (H_{db\text{-}oil} + H_{ct\text{-}oil})] * 20.9}$$

E_s is the allowable emissions in ppm @ 15% O_2

$H_{db\text{-}gas}$ is the heat input to the duct burner from natural gas (mmBTU/hr),
$H_{db\text{-}oil}$ is the heat input to the duct burner from oil (mmBTU/hr),
$H_{ct\text{-}gas}$ is the heat input to the combined cycle combustion turbine from natural gas (mmBTU/hr)
$H_{ct\text{-}oil}$ is the heat input to the combined cycle combustion turbine from oil (mmBTU/hr)

The NOx emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up shutdown and malfunction). **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3, specific conditions 28 and 31 in the October 30, 2003 NSR permit (conditions III.B.8., 1., and 4. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current five year period.

Specific Condition no. 28:
Continuous emission monitoring systems (CEMS) shall be installed on each HRSG exhaust stack to measure and record, the concentration of nitrogen oxides, and oxygen emitted from the combined combustion turbine and duct burner exhaust. They shall be maintained and calibrated in accordance with 40 CFR Part 75, Appendix B in lieu of 40 CFR, Part 60, Appendix B and Appendix F. A 30 day notification prior to the demonstration of continuous monitoring system performance and subsequent notification requirements, are to be submitted to the Department (Director, Piedmont Regional Office).

Specific Condition no. 31:
Doswell Limited Partnership shall submit to the Department (Director, Piedmont Regional Office) reports during periods of excess emissions as required under Section 60.334(c)(2) and (3) of 40 CFR 60 Subpart GG every calendar quarter and as required in the approved alternative compliance plan. Doswell Limited Partnership shall submit and **report excess NOx emissions on a quarterly basis**. Excess emissions shall be calculated as expressed in III.A.14. of this section. In addition NOx emission monitors shall be available at least 90% of the source operating time (excluding the period of time that the quality assurance check is being conducted). The CEM availability shall be calculated as follows:

$$A^* = \frac{\sum Hc}{\sum Ho} \times 100$$

Where:
A*: is the percent of time that the CEM was available

Hc:is the number of hours the CEM collected valid data and
Ho:is the number of hours that the combustion turbine operated.

* The hours of valid data and the operating hours shall be summed over the most recent four quarters.

The NOx emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up, shut down and malfunction). The percent of the time that emissions are less than or equal to allowable limits shall be calculated as follows:

$$C^* = \left(1 - \frac{\sum He}{\sum Hv}\right) \times 100$$

Where C is the percent of time that emissions are less than or equal to allowable limits,

H_e is the number of hours that emissions are greater than allowable limits, and
H_v is the number of hours that the CEM was collecting valid data.

* The number of hours that emissions are greater than allowable limits and the hours of valid data shall be summed over the most recent four quarters.

As per the EPA approved alternative monitoring plan (October 20, 1994):

Hourly NO_X stack emissions are measured by a CEM system which performs daily calibrations for the NO_X and O_2 analyzers, records raw data, and generates reports. Raw data validated with daily calibration drift checks are then used to determine an hourly averaged concentration expressed as ppm @15% O_2. The CEM system calculates an hourly stack emission limit based upon the calculations above (from the alternative monitoring plan) and alarms an excess emission if the hourly concentration is greater than the calculated limit. Excess emissions are reported in the facility's quarterly data assessment report to the state and federal agencies. Quality control procedures defined in 40 CFR Part 75, Appendix B are used to validate the collected CEM data.

Reporting:

Report excess NOx emissions on a quarterly basis as per specific condition no. 31 of the October 30, 2003 NSR permit (condition no. III.C.2. of the Title V permit).

Specific Condition 17 of the October 30, 2003 NSR permit (Condition III.A.15. of the Title V permit):
Limitations: Emissions from the operation of the auxiliary boiler (emission unit ID #: 51/52) shall not exceed the limitations below:

Natural Gas

	LBS/10^6 BTU	LBS/HR
PM10	0.02	0.9
SO2	0.003	0.1
NOx	0.12	4.9
CO		11.0
VOC		5.1

No. 2 Oil

	LBS/10^6 BTU	LBS/HR
PM10	0.05	2.0
SO2	0.07	2.9
NOx	0.18	7.2
CO		10.6
VOC		6.8
Lead		2.0×10^{-3}

Specific Condition 18 of the October 30, 2003 NSR permit (Condition III.A.16. of the Title V permit):
Limitations: Emissions from the operation of the emergency generator (emission unit ID #: 71) shall not exceed the limitations below:

	LBS/10^6 BTU	LBS/HR
SO2		0.3
NOx	2.5	18.0
CO		2.0
VOC		0.6

Specific Condition 19 of the October 30, 2003 NSR permit (Condition III.A.17. of the Title V permit):
Limitations: Emissions from the operation of the emergency diesel pump (emission unit ID #: 61) shall not exceed the limitations below:

	LBS/10^6 BTU	LBS/HR
NOx	4.5	3.5
CO		0.5

Monitoring, Recordkeeping and Reporting:

No monitoring, recordkeeping, and reporting should be required as the hourly emission limits were established based on the hourly capacities of the auxiliary boiler, emergency

generator, and emergency diesel pump. Therefore, if the auxiliary boiler, emergency generator, and emergency diesel pump are operated at capacity, or below, there should not be a violation of their hourly emission rates. In addition, there is a flow meter on the auxiliary boiler and the generator's fuel consumption is calculated using operating hours times rated fuel flows.

Specific Condition 20 of the October 30, 2003 NSR permit (Condition III.A.18 of the Title V permit):
Limitations: Not withstanding conditions **III. A. 12, 13, 15 and 16** of this permit, at no time shall total Volatile Organic Compound (VOC) emissions for the entire combined cycle (emission unit ID #s: 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 71, 111 and 112) facility exceed 213 tons per year. The Volatile Organic Compound emissions shall be calculated as follows:

$$VOC = (NG_{(ct)})(0.003 \text{ lbs}/10^3 \text{ ft}^3) + (NG_{(db)})(0.009 \text{ lbs}/10^3 \text{ ft}^3)$$
$$+ (NG_{(ab)})(0.12 \text{ lbs}/10^3 \text{ ft}^3) + (FO_{(ct)})(0.82 \text{ lbs}/10^3 \text{ gal})$$
$$+ (FO_{(db)})(11.82 \text{ lbs}/10^3 \text{ gal}) + (FO_{(ab)})(21.94 \text{ lbs}/10^3 \text{ gal})$$
$$+ (FO_{(dg)})(19.60 \text{ lbs}/10^3 \text{ gal}) + (FO_{(st)})$$

Where:
$NG_{(ct)}$ is the amount of natural gas fired in the combined cycle combustion turbine (10^3 scf),
$NG_{(db)}$ is the amount of natural gas fired in the duct burner (10^3 scf),
$NG_{(ab)}$ is the amount of natural gas fired in the auxiliary boiler (10^3 scf),
$FO_{(ct)}$ is the amount of fuel oil fired in the combined cycle combustion turbines (10^3 gallons),
$FO_{(db)}$ is the amount of fuel oil fired in the duct burner (10^3 gallons),
$FO_{(ab)}$ is the amount of fuel oil fired in the auxiliary boiler (10^3 gallons),
$FO_{(dg)}$ is the amount of fuel oil fired in the diesel generator (10^3 gallons), and
$FO_{(st)}$is the amount of VOCs emitted during storage and handling of fuel oil (lbs.)

Specific Condition no. 29:
Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 29 and general condition no. 3 in the October 30, 2003 NSR permit (conditions III.A.26 and B.5. in the Title V permit) which will be as according to the following:

General Condition no. 3:
Continuous monitoring systems shall be installed to monitor and record* the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the combined cycle turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

*: The data is recorded continuously.

The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

The auxiliary boiler's fuel consumption is monitored by fuel flow meters and monthly tank inventory of no. 2 fuel oil along with performing the API tanks program to determine the amount VOCs being emitted from the fuel tanks.

The diesel generator's fuel consumption is calculated using operating hours and rated fuel flows.

Specific Condition 21 of the October 30, 2003 NSR permit (Condition III.A.19. of the Title V permit):
Limitations: Not withstanding conditions **III.A. 14, 15, 16, and 17** of this permit at no time shall total nitrogen dioxide emissions for the entire combined cycle facility (emission unit ID #s: 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61 and 71) exceed 2376 tons per year. The nitrogen dioxide emissions shall be calculated as follows:

$$
\begin{aligned}
NOx = {} & (NG_{(ct)})(0.0332 \text{ lbs}/10^6 \text{ BTU})^{(1)} \\
+ {} & (NG_{(db)})(0.10 \text{ lbs}/10^6 \text{ BTU})^{(1)} \\
+ {} & (NG_{(ab)})(0.12 \text{ lbs}/10^6 \text{ BTU}) \\
+ {} & (FO_{(ct)})(0.1166 \text{ lbs}/10^6 \text{ BTU})^{(1)} \\
+ {} & (FO_{(db)})(0.12 \text{ lbs}/10^6 \text{ BTU})^{(1)} \\
+ {} & (FO_{(ab)})(0.18 \text{ lbs}/10^6 \text{ BTU}) \\
+ {} & (FO_{(dg)})(4.5 \text{ lbs}/10^6 \text{ BTU}) \\
+ {} & (FO_{(dp)})(2.5 \text{ lbs}/10^6 \text{ BTU})
\end{aligned}
$$

Where:

$NG_{(ct)}$ is the heat input to the combined cycle combustion turbine from natural gas (10^6 BTUs),
$NG_{(db)}$ is the heat input to the duct burner from natural gas (10^6 BTU),
$NG_{(ab)}$ is the heat input to the auxiliary boiler from natural gas (10^6 BTU),
$FO_{(ct)}$ is the heat input to the combined cycle combustion turbine from fuel oil (10^6 BTU),
$FO_{(db)}$ is the heat input to the duct burner from fuel oil (10^6 BTU),
$FO_{(ab)}$ is the heat input to the auxiliary boiler from fuel oil (10^6 BTU),
$FO_{(dg)}$ is the heat input to the diesel generator from fuel oil (10^6 BTU), and
$FO_{(dp)}$ is the heat input to the diesel pump from fuel oil (10^6 BTU).

(1) Emissions calculated from continuous emission monitors which meet the requirements of 40 CFR Part 75, Appendix A in lieu of 40 CFR Part 60, Appendix

B, Performance Specification 2 may be substituted in the above equation for the combined duct burner and combustion turbine emissions.

Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 29 in the October 30, 2003 NSR permit (conditions III.B.2. in the Title V permit) which will be as according to the following:

Specific Condition no. 29:
Continuous monitoring systems shall be installed to monitor and record the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the combined cycle turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.

From the fuel meter for the auxiliary boiler the fuel consumption per year will be used to multiply by the heat content per unit of fuel. The fuel heat contents are determined as indicated in the EPA approved alternative monitoring plan (October 20, 1994) listed below:

"Fuel gas heating values are measured by the gas supplier at the facility's supply station. Samples are analyzed using gas chromatography meeting AGA standards. An automatic daily calibration is conducted with certified gases. As-fired fuel oil samples from the oil storage tank in service are sent to an independent laboratory. Samples are analyzed using the ASTM D-240 method."

Specific Condition 22 of the October 30, 2003 NSR permit (Condition III.A.20. of the Title V permit):
Limitations: The entire combined cycle facility's (emission unit ID #s: 11/12, 13/14, 21/22, 23/24, 31/32, 33/34, 41/42, 43/44, 51/52, 61, 71, 111 and 112) emissions shall not exceed the following calculated as the sum of each consecutive 12 month period.

	TONS/YR
PM10	623.0
SO2	2562.0**
Nox	2376.0
CO	706.0
VOC	213.0
Pb	0.40

** This is the maximum SO2 emission limit unless the summation of the calendar year amount calculated from the formula in Condition III.A.24 of this permit is lower.

Monitoring, Recordkeeping and Reporting: Monitoring, recordkeeping, and reporting will be as according to the monitoring, recordkeeping and reporting, for specific conditions 28 and 26 and general condition no. 3 in the October 30, 2003 NSR permit

(conditions III.B.1., A.23 and B.8. in the Title V permit) which will be as according to the following:

Specific Condition no. 28:
Continuous monitoring systems shall be installed on each HRSG exhaust stack to measure and record*, the concentration of nitrogen oxides, and oxygen emitted from the combined combustion turbine and duct burner exhaust. They shall be maintained and calibrated in accordance with 40 CFR Part 75, Appendix B in lieu of 40 CFR, Part 60, Appendix B and Appendix F. A 30 day notification prior to the demonstration of continuous monitoring system performance and subsequent notification requirements, are to be submitted to the Department (Director, Piedmont Regional Office).

*: The data is recorded continuously.

Specific Condition no. 26 :

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

Specific Condition 24 of the October 30, 2003 NSR permit (Condition III.A.21 of the Title V permit):
Limitations: Visible emissions from each exhaust point at the facility shall not exceed ten (10) percent opacity except during periods of start-up, shutdown and malfunction.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 34 in the October 30, 2003 NSR permit and additional periodic monitoring for all other emission points besides the duct burners (conditions III.B.4. in the Title V permit) which will be as according to the following:

Specific Condition 34 (which includes EPA approved alternative opacity monitoring for the duct burners for NSPS Da – March 1998):
Doswell Limited Partnership shall conduct opacity observations when oil is combusted in the duct burners. The opacity observation shall be conducted as a replacement for the continuous opacity monitor required in 40 CFR 60 Subpart Da. The opacity observation shall be conducted at least once during each daylight shift that duct burners combust oil. The observer shall be certified in accordance with EPA Reference Test Method 9. The observation shall, at a minimum, consist of a six (6) minute visible emission observation recording the stack opacity readings every 15 seconds as required by Method 9 procedures. If the average opacity for a six (6) minute set of opacity readings exceeds 10%, the qualified VEE observer shall collect two additional six (6) minute sets of visible emissions readings for a total of three (3) sets.

The emissions from exhaust stacks shall be observed visually at least once each calendar month for at least a brief time period during normal operations to determine if they have above normal visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having above normal visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. If an emission point is not operated during the calendar month, then no visible emission observation needs to be performed and a negative declaration shall be entered in the record stating the emission unit was not in operation. Should emission point operation be limited or intermittent, and/or adverse conditions (e.g. weather or darkness) prevail during the limited or intermittent operating period, no visible emission observation needs to be performed and a negative declaration shall be entered in the record along with the date(s) of operation, the hours of operation of the emission unit and a notation indicating inclement weather.

Specific Condition 25 of the October 30, 2003 NSR permit (Conditions III.A.22. of the Title V permit):
Limitations: The approved fuels for the facility are pipeline quality natural gas (natural gas that is provided by a supplier through a pipeline) and No. 2 fuel oil. A change in the fuel may require a permit to modify and operate.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific conditions **26, 30 and latter section of condition no. 27** in the October 30, 2003 NSR permit (conditions III.A.23., B.3. and A.24. in the Title V permit) which will be as according to the following:

Specific Condition no. 26 :

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These

records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

Specific Condition no. 30:
Doswell Limited Partnership shall monitor the sulfur content of the No. 2 fuel oil being fired in the combined cycle combustion turbines in accordance with 40 CFR 60 Section 60.334(b). In accordance with the approved modified testing schedule Doswell Limited Partnership shall monitor the natural gas sulfur content twice per annum during the first and third quarter of each calendar year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division and the Piedmont Regional Office of such excess emissions and the custom fuel monitoring schedule shall be conducted twice weekly during the interim period when this custom schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel monitoring schedule. Records associated with the custom fuel monitoring schedule shall be retained for a period of five (5) years.

Latter section of specific condition no. 27

"Doswell Limited Partnership shall keep monthly records of natural gas consumption for each of the above units and ***total sulfur analysis for the purpose of computing the allowable emission rates. The sulfur analysis shall be performed in accordance with the alternative sampling schedule that has been approved by the Environmental Protection Agency***."

Schedule: EPA's approved alternative monitoring frequency for natural gas sulfur content (January 9, 1998)

Specific Condition 26 of the October 30, 2003 NSR permit (Condition III.A.23 of the Title V permit):
Limitations:

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

Monitoring, Recordkeeping and Reporting: Monitoring, recordkeeping and reporting will be as according to the monitoring, recordkeeping, and reporting in specific condition 26 in the October 30, 2003 NSR permit (conditions III.A.23. in the Title V permit) along with additional periodic monitoring.

Specific Condition 27 of the October 30, 2003 NSR permit (Condition III.A.24. of the Title V permit):
Limitations: Based on the gas analysis for sulfur content, annual allowable sulfur dioxide emissions shall be calculated as follows:

Combined Cycle Combustion Turbine: (Per Unit)

$$SO2 = \sum_{\text{Jan.}}^{\text{Dec.}} \text{Month} \left(\frac{\text{SCFNG}}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} \right) + 295$$

Duct Burner: (Per Unit)

$$SO2 = \sum_{\text{Jan.}}^{\text{Dec.}} \text{Month} \left(\frac{\text{SCFNG}}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} \right) + 57.5$$

Auxiliary Boiler:

$$SO2 = \sum_{\text{Jan.}}^{\text{Dec.}} \text{Month} \left(\frac{\text{SCFNG}}{\text{Month}} \times \frac{\text{Grains Total Sulfur}}{\text{SCF}} \times \frac{1 \text{ Pound}}{7000 \text{ Grains}} \times \frac{1 \text{ Ton}}{2000 \text{ Pounds}} \times \frac{2 \text{ Tons SO2}}{\text{Ton S}} \right) + 9.6$$

Doswell Limited Partnership shall keep monthly records of natural gas consumption for each of the above units and total sulfur analysis for the purpose of computing the allowable emission rates. The sulfur analysis shall be performed in accordance with the alternative sampling schedule that has been approved by the Environmental Protection Agency. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 27 in the October 30, 2003 NSR permit (conditions III.A.24. in the Title V permit).

From the EPA approved alternative monitoring plan (October 20, 1994), fuel sampling shall be as according to the following:

"Fuel gas heating values are measured by the gas supplier at the facility's supply station. Samples are analyzed using gas chromatography meeting AGA standards. An automatic daily calibration is conducted with certified gases. As-fired fuel oil samples from the oil storage tank in service are sent to an independent laboratory. Samples are analyzed using the ASTM D-240 method."

Specific Condition 28 of the October 30, 2003 NSR permit (Condition III.B.1. of the Title V permit):
Limitations: Continuous emission monitoring systems (CEMS) shall be installed on each HRSG exhaust stack to measure and record, the concentration of nitrogen oxides, and oxygen emitted from the combined combustion turbine and duct burner exhaust. They shall be maintained and calibrated in accordance with 40 CFR Part 75, Appendix B in lieu of 40 CFR, Part 60, Appendix B and Appendix F. A 30 day notification prior to the demonstration of continuous monitoring system performance and subsequent notification requirements, are to be submitted to the Department (Director, Piedmont Regional Office). **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, in general condition no. 3 in the October 30, 2003 NSR permit (condition III.B.8. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

Records are kept of the maintenance and calibration of the continuous monitoring system used to determine the concentration of nitrogen oxides and oxygen emitted from the combined combustion turbine and duct burner exhaust. In addition, the procedures are outlined in the facility's preventive maintenance program.

Specific Condition 29 of the October 30, 2003 NSR permit (Condition III.B.2. of the Title V permit):
Limitations: Continuous monitoring systems shall be installed to monitor and record the fuel oil and natural gas consumption as required in the alternative monitoring plan approved by US EPA. The monitoring systems shall be in operation at all times when the

combined cycle turbines or turbine/duct burner combination are in operation. They shall be maintained and calibrated in accordance with the manufacturer's specifications.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, in general condition no. 3 of the October 30, 2003 NSR permit (condition III.A.8. in the Title V permit) which will be as according to the following:

General Condition No. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

From the EPA approved alternative monitoring plan (October 20, 1994), the following is performing:

"Pre-existing source monitoring equipment and procedures are used to determine fuel flow rates and heat input. Fuel flow rates are determined by using ASME, ISO and AGA standards. Fuel gas flow to the combustion turbine is calculated using a flowmeter, a gas density meter, and pressure and temperature transmitters. The fuel oil flow is determined using a turbine-proximity flowmeter. Duct burner fuel flow measuring gas flow. An ASME orifice with a differential pressure transmitter is installed for measuring oil and gas density meters are inspected annually and calibrated every three years and transmitters are calibrated and/or inspected annually. These procedures are outlined in the facility's preventive maintenance program."

Specific Condition 30 of the October 30, 2003 NSR permit (Condition III.B.3. of the Title V permit) which includes the EPA approved alternative monitoring frequency for natural gas sulfur content (January 9, 1998):
Limitations: Doswell Limited Partnership shall monitor the sulfur content of the No. 2 fuel oil being fired in the combined cycle combustion turbines in accordance with 40 CFR 60 Section 60.334(b). In accordance with the approved modified testing schedule Doswell Limited Partnership shall monitor the natural gas sulfur content twice per annum during the first and third quarter of each calendar year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division and the Piedmont Regional Office of such excess emissions and the custom fuel monitoring schedule shall be conducted twice weekly during the interim period when this custom schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel monitoring schedule. Records associated with the custom fuel monitoring schedule shall be retained for a period of five (5) years. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, as stated in specific condition 30 in the October 30, 2003 NSR permit (conditions III.B.3. in the Title V permit):

From the EPA approved alternative monitoring plan (October 20, 1994), the following will be performed:

"Fuel gas heating values are measured by the gas supplier at the facility's supply station. Samples are analyzed using gas chromatography meeting AGA standards. An automatic daily calibration is conducted with certified gases. As-fired fuel oil samples from the oil storage tank in service are sent to an independent laboratory. Samples are analyzed using the ASTM D-240 method."

Specific Condition 31 of the October 30, 2003 NSR permit (Condition III.B.4. of the Title V permit) which includes EPA approved alternative monitoring plan (October 20, 1994):

Limitations: Doswell Limited Partnership shall submit to the Department (Director, Piedmont Regional Office) reports during periods of excess emissions as required under Section 60.334(c)(2) and (3) of 40 CFR 60 Subpart GG every calendar quarter and as required in the approved alternative compliance plan. Doswell Limited Partnership shall submit and report excess NOx emissions on a quarterly basis. Excess emissions shall be calculated as expressed in condition III.A.14. In addition NOx emission monitors shall be available at least 90% of the source operating time (excluding the period of time that the quality assurance check is being conducted). The CEM availability shall be calculated as follows:

$$A^* = \frac{\sum Hc}{\sum Ho} \times 100$$

Where:
A*: is the percent of time that the CEM was available,
Hc:is the number of hours the CEM collected valid data and
Ho:is the number of hours that the combined cycle combustion turbine operated.

* The hours of valid data and the operating hours shall be summed over the most recent four quarters.

The NOx emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up, shut down and malfunction). The percent of the time that emissions are less than or equal to allowable limits shall be calculated as follows:

$$C^* = \left(1 - \frac{\sum He}{\sum Hv}\right) \times 100$$

Where C is the percent of time that emissions are less than or equal to allowable limits,

H_e is the number of hours that emissions are greater than allowable limits, and
H_v is the number of hours that the CEM was collecting valid data.

* The number of hours that emissions are greater than allowable limits and the hours of valid data shall be summed over the most recent four quarters.

Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for general condition no. 3 in the October 30, 2003 NSR permit (conditions III.B.8. in the Title V permit) which will be as according to the following:

General Condition no. 3:
The permittee shall retain records of all emission data and operating parameters required to be monitored by the terms of this permit. These records shall be maintained by the source for the most current **five** year period.

As according to the EPA approved alternative monitoring plan (October 20, 1994), the following will be performed:

"Hourly NO_X stack emissions are measured by a CEM system which performs daily calibrations for the NO_X and O_2 analyzers, records raw data, and generates reports. Raw data validated with daily calibration drift checks are then used to determine an hourly averaged concentration expressed as ppm @15% O_2 an excess emission if the hourly concentration is greater than the calculated limit. Excess emissions are reported in the facility's quarterly data assessment report to the state and federal agencies. Quality control procedures defined in 40CFR60 Subpart Da and Appendix F are used to validate the collected data."

Reporting: Shall be as according to specific condition no. 31 of the October 30, 2003 NSR permit (Condition III.C.2. of the Title V permit).

Specific Condition 32 of the October 30, 2003 NSR permit (Condition III.A.25. of the Title V permit) which includes EPA approved alternative opacity monitoring method under NSPS Da for duct burners:
Limitations: Thirty days after the end of each calendar quarter in which there are opacity excess emissions during oil combustion, Doswell will submit an excess emission report (EER) to the Department (Director, Piedmont Regional Office) and the US EPA-Region III. If there are no opacity excess emissions during a calendar quarter, EERs will be submitted on a semiannual basis. For reporting purposes, excess emissions are defined as any six minute period during which the average opacity exceeds 10 percent, except during startup, shutdown or malfunction, and EERs will indicate the total time of the visible emission observations during a calendar quarter and identify the duration of any excess emissions.

Reporting: Shall be as outlined in specific condition no. 32 of the October 30, 2003 NSR permit (Condition III.A.25. of the Title V Permit).

Specific Condition 33 of the October 30, 2003 NSR permit (Condition III.B.5. of the Title V permit):
Limitations: Doswell Limited Partnership shall meet all applicable requirements of 40 CFR Part 60 Subpart GG - Standards of Performance for Stationary Gas Turbines and

40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units, except as provided in the federally approved alternative monitoring method for opacity and NOx emissions from the combined cycle combustion turbine/HRSG duct burner firing; and 40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
Monitoring and Recordkeeping: Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, as discussed under the NSPS section or as per each condition in regards to the respective NSPS.

****

NSPS Da – Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978
(NSPS Da is only applicable to the Combined Cycle Facility and not to the Simple Cycle Facility as per 40 CFR 60.40a(b)):

40 CFR 60.42a Standard for particulate matter:

40 CFR 60.42a(a)(1):
The duct burners meet the particulate standard of (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;

Based on the following:
The PM (TSP) and PM10 emission limits for the duct burners when burning natural gas is 0.0192 lbs/million BTU and when burning No. 2 Fuel Oil is 0.030 lbs/million BTU.

40 CFR 60.42a(3):
"And the 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel." is currently being met based on the following definition of potential combustion concentration (40 CFR 60.41a):

means the theoretical emissions (ng/J, lb/million Btu heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems) and:

(a) For particulate matter is:

(1) 3,000 ng/J (7.0 lb/million Btu) heat input for solid fuel; and
(2) 73 ng/J (0.17 lb/million Btu) heat input for liquid fuels.

The permit limit for particulate for oil as fired is 0.03 lb/mmBTU. 30% of 0.017 lb/mmBTU would allow up to 0.051 lb/mmBTU.

In addition, it meets the opacity standard for particulate matter as follows:

40 CFR 60.42a(b)
Opacity Standard:

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

by specific condition no. 24 of the October 30, 2003 NSR Permit:

Specific Condition no. 24 states the following of which meets the above opacity standard: Visible emissions from each exhaust point at the combined cycle facility shall not exceed ten (10) percent opacity.

40 CFR 60.43a Standard for sulfur dioxide

60.43a(b)(2)
100 percent of the potential combustion concentration (zero percent reduction) when emissions are less than 86 ng/J (0.20 lb/million Btu) heat input.

Based on the following:

The SO2 emission limits in the NSR permit for the duct burners when burning natural gas is 0.00310 lbs/million BTU and when burning No. 2 Fuel Oil is 0.0650 lbs/million BTU of which more than meets the standard. In addition, this is based on a more stringent hourly basis rather than averaged over a 24 hour period as described in the definition for "boiler operating day".

40 CFR 60.44a Standard for nitrogen oxides

60.44a(a)
The NSPS emission limits and monitoring requirements for nitrogen oxides for both the turbines and the duct burners have been replaced with the combined emission limit (Condition III.A.14 in the Title V Permit) as per the EPA approved alternative method (October 20, 1994).

60.44a(c)
Doswell's combined cycle combustion turbines can burn natural gas and fuel oil simultaneously and is exempt from the standard, which is determined by a proration formula for when burning two or more fuels simultaneously. However, the alternative method includes a proration of emission limits by fuels. In addition, please note the duct burners cannot burn natural gas and fuel oil simultaneously.

40 CFR 60.45a Commercial Demonstration Permit *- NA*

40 CFR 60.46a Compliance Provisions

60.46a(c)

60.46a(c) applies to particulate matter emission standards but does not apply to the nitrogen oxides emissions standards due to the EPA approved alternative monitoring method for nitrogen oxides (October 20, 1994). In addition, this should apply to sulfur dioxide whenever 30 successive operating boiler days is reached. (Please see discussion in the following paragraph.)

60.46a(e), (f), (g), and (h)
60.46a(e), (f), (g), and (h) are in regards to nitrogen oxides and sulfur dioxide when the boilers operate for 30 successive days. These provisions should not apply to the sulfur dioxide as the limits on the sulfur dioxide for the duct burners are based on the more stringent hourly emission limits rather than averaged over a 24 hour period as described for a "boiler operating day". In addition, the facility operates less than 12 hours/day so therefore they have not yet met the 30 successive boiler operating days. They most likely will not ever meet the 30 successive boiler operating days. These compliance provisions will not apply in regards to the nitrogen oxides as Doswell has an EPA approved alternative monitoring method for nitrogen oxides (October 20, 1994).

60.46a(j) and (k):
The duct burners for the combined cycle turbines do use a continuous emission monitoring system (CEMS) for nitrogen oxides; however, the CEMS is as per the EPA approved alternative monitoring plan (October 20, 1994) as this section of the regulations was not in effect when this facility was constructed.

40 CFR 60.47a Emission Monitoring

60.47a(a)
The requirement to have a continuous monitoring system for measuring opacity does not apply as EPA approved an alternative opacity monitoring method for the duct burners in March of 1998. **Specific Condition nos. 32, 34 and 35 of the October 30, 2003 NSR permit** (Condition nos III.A. 25., B.6. and 7. of the Title V Permit) include requirements from the alternative method. In addition, the associated records for the opacity is as discussed under **specific condition nos. 34 and 35** (condition nos. III.B.6. and 7. of the Title V Permit) of this document along with adding periodic monitoring of the manufacturer's recommendations for maintaining the duct burners as per the alternative opacity monitoring method.

60.47a(b)
The requirement to have a sulfur dioxide continuous monitoring system along with recording the output is not required yet of this facility as the boilers have not operated for thirty successive days. (Please see discussion under "60.46a(e), (f), (g), and (h)") However, fuel consumption is monitored continuously as per the NOx alternative monitoring plan along with having fuel certification records.

60.47a(c)(1) or (2) and (d)
These requirements shall be as per the alternative monitoring plan (October 20, 1994) instead. However, the sulfur dioxide requirement does not apply as of yet due to thirty

successive boiler operating days has not occurred. (Please see discussion under 60.47a(b))

60.47a(e), (f), (g) and (h)
These requirements do not apply due to the alternative monitoring plan (October 20, 1994) and/or as of yet thirty successive boiler operating days has not occurred. (Please see discussion under 60.47a(b))

40 CFR 60.48a Compliance Determination Procedures and Methods

60.48a(b)(1)
All applicable initial performance tests have already been performed.

40 CFR 60.49a Reporting Requirements

The facility submits a quarterly data assessment report as discussed in the October 20, 1994 alternative monitoring plan, which includes any excess emissions. This is what is used to satisfy the reporting requirements under 40 Part 60.49a. (Note: The data assessment report is submitted more frequently than what is required under 40 CFR 60.49a of semi-annually for each six-month period.)

Auxiliary Boiler:

NSPS Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

40 CFR 60.42c Standard for sulfur dioxide.

60.42c (d) and (e) 2:
The 40 mmbtu/hr auxiliary boiler more than meets the sulfur dioxide standard of 0.50 lb/million Btu) heat input as the auxiliary boiler is limited to 0.003 lb/million Btu heat input for when burning natural gas. In addition, when the auxiliary boiler is combusting no. 2 oil, it is limited to 0.07 lb/million Btu heat input.

Also, the no. 2 fuel oil is less than 0.5 weight percent sulfur when combusting oil as the no. 2 fuel oil is limited to 0.05% by weight.

Compliance with both the emission limit or the fuel oil limit may be demonstrated by a certification from the fuel supplier as listed under 60.42c (h) which is required in the NSR permit as listed below (Please note, the section in *italics* was as per 60.48c (f) (1), the section in **bold** was added as per 60.48c (11)) and the section that is <u>underlined</u> is as per 60.48c(j):

Specific Condition no. 26:

After September 30, 1993 the maximum allowable sulfur content of the No. 2 fuel oil purchased shall not exceed 0.05% by weight. Doswell Limited Partnership shall maintain records of all oil shipments purchased, indicating sulfur content per shipment. These records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

For the auxiliary boiler, the records shall also include the name of the oil supplier; and a statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c. Along with these records, a certified statement signed by the owner or operator of the affected facility shall be reported each six-month period indicating that the records of fuel supplier certifications, submitted represent all of the fuel combusted during the reporting period. All reports shall be submitted to the Piedmont Region and Chief, Air Enforcement Branch (3AP13), U.S. EPA, Region III and all records shall be available on site for inspection by department personnel. They shall be kept on file for the most current five (5) year period.

40 CFR 60.43c Standard for particulate matter

60.43c(c) & (d):
The 40 mmbtu/hr natural gas/distillate oil boiler has more than met and shall continue to meet the opacity standard of no greater than 20 percent (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. In addition, the opacity standard applies at all times, except during periods of startup, shutdown, or malfunction.

The combined cycle facility has to meet a more stringent opacity of 10 percent as per the NSR permit.

A continuing periodic monitoring condition is already in place in the NSR permit to ensure maintenance of this standard as follows:

Specific Condition no. 32 (condition no. III.A.25. in the Title V Permit) (which includes the EPA approved alternative monitoring method for opacity for the duct burners (March 1998)):
Thirty days after the end of each calendar quarter in which there are opacity excess emissions during oil combustion, Doswell will submit an excess emission report (EER) to the Department (Director, Piedmont Regional Office) and the US EPA-Region III. If there are no opacity excess emissions during a calendar quarter, EERs will be submitted on a semiannual basis. For reporting purposes, excess emissions are defined as any six minute period during which the average opacity exceeds 10 percent, except during startup, shutdown or malfunction, and EERs will indicate the total time of the visible emission observations during a calendar quarter and identify the duration of any excess emissions.

40 CFR 60.44c Compliance and performance test methods and procedures for sulfur dioxide

60.44c(h)
This requirement is already being met and is continued to be met as the NSR permit requires fuel supplier certifications to demonstrate compliance with the sulfur dioxide requirements (**specific condition no. 26 of the October 30, 2003 NSR permit** – condition no. **III.A.23. in the Title V Permit**).

40 CFR 60.45c Compliance and performance test methods and procedures for particulate matter

60.45c(8)
The requirement of performing an initial performance test with Method 9 for determining opacity has been performed. In addition, visual emissions evaluations will be required on a monthly basis and if the opacity is above normal an EPA Method 9 will have to be performed.

40 CFR 60.48c Reporting and recordkeeping requirements

60.48c(d), (e)(11), (g):
Along with the requirements of keeping fuel supplier certifications records, the NSR permit requires the NSPS requirement of a certification statement signed by the owner or operator of the facility that the records represent all of the fuel combusted during the reporting period. In addition, the Title V permit included the requirement of keeping daily records of the amounts of each fuel combusted during each day in the auxiliary boiler.

60.48c(i) and (j):
The facility is already required to keep records for a five year period and in addition, the NSPS Dc requirement to report each six month period by the 30th day following the end of the reporting period was included in the **periodic monitoring** section of the Title V permit.

Turbines

NSPS GG – Standards of Performance for Stationary Gas Turbines

40 CFR 60.332 Standard for Nitrogen Oxides

60.332(a)(1), (3) and (b)
These requirements do not apply to the combined cycle turbines instead the turbines are subject to the NO_X alternative monitoring plan in regards to 40 CFR 60 Subparts GG and Da dated October 20, 1994.

However, the simple cycle turbine is subject to these requirements and are being met as

required in **specific condition 14 in the October 30, 2003 NSR permit** (condition no. IV.A.12 in the Title V Permit).

40 CFR 60.333 Standard for Sulfur Dioxide

60.333 (a) and (b)
The combined cycle turbines and the simple cycle turbine are meeting both of these requirements as required in **specific conditions 25 (nat. gas), and 26 (oil) in the October 30, 2003 NSR permit (Condition nos. III.A.22. and 23. in the Title V Permit) for the combined cycle turbine and conditions 17 (nat. gas), and 18 (oil) in the October 30, 2003 NSR permit (condition nos. IV.A.14. and 15. in the Title V Permit) for the simple cycle turbine.**

40 CFR 60.334 Monitoring of operations

40 CFR 60.334(a), (b), and (c)(1)
The requirements do not apply to the combined cycle turbines in regards to the nitrogen oxides but instead the NO_X alternative monitoring plan for the combined cycle dated October 20, 1994 is applied. However, the NO_X requirements (a) and (c)(1) do apply to the simple cycle turbine for when water injection is used for control of NO_X when firing no. 2 distillate fuel oil. It is monitored by a direct monitoring method of a NO_X CEM of which meets the more stringent 40 CFR 75 requirements rather than an indirect method of monitoring the fuel to water ratio. This requirement is being met by **condition nos. 23, 24 and 25 (condition nos. IV.B.3, 4 and 5 of the Title V Permit)**. Also for (b), the nitrogen content is being met by **condition no. 22 (condition no. IV.B.2 of the Title V Permit)**.

However, 40 CFR 60.334(b), (c)(2) is applicable to the combined cycle turbines in regards to the sulfur dioxide for when water injection is used when burning natural gas or no. 2 distillate fuel oil. (b) is met as per specific condition no. 30 (condition no. III.B.3. of the Title V Permit) for fuel oil and for natural gas, it is as per the alternative monitoring plan for natural gas sulfur content. (c)(2) is met as per **specific condition no. 31** (condition no. IV.B.4. of the Title V Permit) for both fuel oil and natural gas.

40 CFR 60.334(c)(3) is applicable to Doswell in regards to ice fog as Doswell uses water injection. (c)(3) is met as per **specific condition no. 31** (condition no. IV.B.4. of the Title V Permit) for both fuel oil and natural gas.

40 CFR 60.335 Test methods and procedures

60.335(a)
This nitrogen oxides requirement is not applicable to the combined cycle turbines as the October 20, 1994 alternative monitoring plan is applied.

60.335 (c)(3), (d), and (e)
These sulfur dioxide requirements are applicable to the combined cycle turbines and to

the simple cycle turbine have been implemented into the October 30, 2003 and the October 27, 2003 NSR permits with the respective conditions as follows: **specific condition no. 30** (condition no. III.B.3. of the Title V Permit) (combined cycle turbines) and **condition no. 22** (condition no. IV.B.2. of the Title V Permit) (simple cycle turbine).

Fuel Oil Tanks

NSPS Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984

Applicability

The two fuel oil storage tanks (emission unit ID Nos. 111 and 112) are no longer applicable to the recordkeeping as required in Subpart Kb of 40 CFR part 60. This is as per the following section of NSPS Kb which was revised in the Federal Register on October 15, 2003:

60.110b Applicability and designation of affected facility.

(a)....

(b) This subpart **does not apply** to storage vessels with a **capacity greater than or equal to 151 cubic meters storing a liquid with a maximum true vapor pressure than less than 3.5 kilopascals** (kPa) or with a capacity greater than or equal to 75 cubic meters but less than 151 cubic meters storing a liquid with a maximum true vapor pressure less than 15.0 kPa.

(151 cubic meters equates to approximately 39,863 gals of which Doswell's tanks are each 7.6 million gals of distillate fuel oil and their maximum true vapor pressure is below the 3.5 kilopascals.)

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Specific Condition 34 of the October 30, 2003 NSR permit (Condition III.B.6.. of the Title V permit):
Limitations: Doswell Limited Partnership shall conduct opacity observations when oil is combusted in the duct burners. The opacity observation shall be conducted as a replacement for the continuous opacity monitor required in 40 CFR 60 Subpart Da. The opacity observation shall be conducted at least once during each daylight shift that duct burners combust oil. The observer shall be certified in accordance with EPA Reference Test Method 9. The observation shall, at a minimum, consist of a six (6) minute visible emission observation recording the stack opacity readings every 15 seconds as required by Method 9 procedures. If the average opacity for a six (6) minute set of opacity readings exceeds 10%, the qualified VEE observer shall collect two additional six (6)

minute sets of visible emissions readings for a total of three (3) sets. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as according to the monitoring and recordkeeping, for specific condition 34 in the October 30, 2003 NSR permit (conditions III.B.6.. in the Title V permit).

Specific Condition 35 of the October 30, 2003 NSR permit (Condition III.B.7. of the Title V permit) which includes the alternative opacity monitoring method (March 1998): **Limitations:** Doswell will record the quantity of distillate oil burned for each duct burner each calendar quarter and include this information in the EERs. If, based upon this information, the distillate oil annual capacity factor ever exceeds 10 percent for any of the duct burners, Doswell will no longer qualify to use this opacity monitoring alternative at that duct burner, and the company will propose a schedule for re-certifying the continuous opacity monitor for the affected duct burner. The alternative opacity monitoring approval is valid only during operation on distillate oil, and the alternative may not be used if any other liquid or solid fuels are burned. All records required by this alternative opacity monitoring method shall be maintained for a period of five (5) years. **Monitoring, Recordkeeping and Reporting:** Monitoring, recordkeeping and reporting will be as according to the monitoring, recordkeeping and reporting, for specific condition 35 in the October 30, 2003 NSR permit (condition III.B.7. in the Title V permit).

Periodic Monitoring for the one (1) simple cycle combustion turbine – GE Model PG7241 (FA) (emission unit ID #: 81/82).

The EPA periodic monitoring guidance, dated September 18, 1998, indicates on page 4 that periodic monitoring is required for each emission point at a source, subject to Title V of the Act, that is subject to an applicable requirement. The information listed below describes the periodic monitoring requirements for all of the applicable requirements for significant sources in the NSR permit issued on October 27, 2003. The requirements are generally contained in the permit issued on October 27, 2003 but some conditions have been developed to ensure that the periodic monitoring requirements of 9 VAC 5-80-110 E.2. have been met.

Condition 3 of the October 27, 2003 NSR permit (Condition IV.A.1. of the Title V permit): Limitations: Nitrogen oxide (NO_x) emissions from the simple cycle combustion turbine (CT) shall be controlled by the utilization of a dry low NO_x combustor when firing natural gas and by water injection when firing No.2 distillate fuel oil. The simple cycle combustion turbine (CT) shall be provided with adequate access for inspection. Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition no. 27 of the October 27, 2003 NSR permit (condition no. IV.B.6. in the Title V permit) to:

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Doswell Limited Partnership monitors the use of a dry low NO_x combustor by the control panel denoting when it is in use and what type of fuel is being combusted. In addition, both forms of NO_X control are directly monitored by the NO_X CEMS. (*Note: The simple cycle received a variance from EPA for the indirect monitoring method of water to fuel ratio as required in NSPS GG but instead allowed for a direct monitoring method.)*

Condition 4 of the October 27, 2003 NSR permit (Condition IV.A.2. of the Title V permit): **Limitations**: Sulfur dioxide emissions from the simple cycle combustion turbine (CT) shall be controlled by the use of low sulfur fuels. **Monitoring and Recordkeeping:** Monitoring will be as according to the monitoring for condition no. 17, 18, 21, and 22 of the October 27, 2003 NSR permit (Condition no. IV.A.14., 15., B.1., and 2 in the Title V permit):

From the files, low sulfur fuels were defined in the April 9, 1990 engineering analysis for the May 4, 1990 permit (amended February 13, 1991) for the combined cycle facility stated the following:

"BACT for this project will be use of low sulfur fuels, i.e., pipeline quality natural gas as primary fuel and 0.2% fuel oil auxiliary. EPA has traditionally recognized natural gas as the lowest sulfur fuel."

As a result, the following condition no. 18 denoting 0.05% by weight maximum allowable sulfur content for no. 2 fuel oil more than meets the low sulfur fuels requirement as well as the use of natural gas as stated in condition no. 17 as follows.

Condition no. 17:
The maximum sulfur content of the natural gas to be burned in the simple cycle combustion turbine (CT) shall not exceed one (1) grain per 100 dry standard cubic feet.

Condition no. 18:
The maximum sulfur content of the oil purchased to be fired in the simple cycle combustion turbine shall not exceed 0.05 weight percent per shipment.

Condition no. 21 which includes the EPA approved alternative monitoring frequency of natural gas for sulfur content (January 9, 1998):
The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted twice per calendar year during the first and third quarter of each year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. **Records** associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.

In addition, as per the alternative monitoring plan (October 20, 1994), the following will be performed:

"Fuel gas heating values are measured by the gas supplier at the facility's supply station. Samples are analyzed using gas chromatography meeting AGA standards. An automatic daily calibration is conducted with certified gases. As-fired fuel oil samples from the oil storage tank in service are sent to an independent laboratory. Samples are analyzed using he ASTM D-240 method."

Condition no. 22:
The permittee shall test the No.2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. **Records** of fuel oil sulfur and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.

Conditions 5 & 6 (respectively) of the October 27, 2003 NSR permit (Condition IV.A.3. and 4 of the Title V permit):
Limitations: Particulate matter (PM) emissions from the simple cycle combustion turbine (CT) shall be controlled by the use of clean burning fuels and good combustion operating practices.

Volatile organic compounds and carbon monoxide emissions from the simple cycle combustion turbine (CT) shall be controlled by the use of good combustion operating practices.

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition nos. 17, 18, 32 and 21 of the October 27, 2003 NSR permit (condition nos. IV.A.14, 15, IV.B.8, and 1 in the Title V permit) to:

Condition no. 17:
The maximum sulfur content of the natural gas to be burned in the simple cycle combustion turbine (CT) shall not exceed one (1) grain per 100 dry standard cubic feet.

Condition no. 18:
The maximum sulfur content of the oil purchased to be fired in the simple cycle combustion turbine shall not exceed 0.05 weight percent per shipment.

Condition no. 32:
In order to minimize the duration and frequency of excess emissions due to malfunctions of process equipment or air pollution control equipment, the permittee shall:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance. These records shall be maintained on site for a period of five (5) years and shall be made available to DEQ personnel upon request.

b. Maintain a suitable inventory of spare parts to minimize the duration of air pollution control equipment breakdown.

Condition no. 21
The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted twice per calendar year during the first and third quarter of each year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule.

Condition 7 of the October 27, 2003 NSR permit (Condition IV.A.5. of the Title V permit):
Limitations: Short-term emission limits from the operation of the simple cycle combustion turbine (CT) while fired on natural gas shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

PM	9.0×10^{-3} lbs/10^6 BTU	9.0 lbs/hr
PM10	9.0×10^{-3} lbs/10^6 BTU	9.0 lbs/hr
SO2	2.8×10^{-3} lbs/10^6 BTU	5.0 lbs/hr
VOC		5.0 lbs/hr
Carbon monoxide		32.0 lbs/hr
Nitrogen oxides		64.0 lbs/hr
	9 ppmd @ 15% O_2	(1-hour average)

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition nos. 29 and 21 of the October 27, 2003 NSR permit and additional periodic monitoring (condition nos. IV.B.7 and 1. in the Title V permit):

Condition no. 29:
The nitrogen oxide emission monitor required by this permit, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine compliance with the NO_x emission limits and/or relevant emission standards. Each monitor is subject to such data capture requirements and/or quality assurance requirements as specified in this permit and as may be deemed appropriate by the Board (40 CFR 75).

Condition no. 21:
The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted

twice per calendar year during the first and third quarter of each year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. Records associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.

Compliance with Hourly Emission Limitations:
The hourly emission limits in the NSR permits were established based on the worst case scenario of the emission units and/or operating at their maximum rated capacity on an hourly basis. Therefore, if each of the emission units is operated at their maximum rated capacity and/or worst case scenario (and not beyond each of the emission units's maximum rated capacities), there should not be a violation of the hourly emission rates.

Also, the NO_X emissions are monitored based on CEMs.

In addition, the opacity standards/limitations will help to ensure the hourly emission limitations are being met. The source will be required to log the appearance of the vented emissions from the various operations and institute corrective action when visible emissions exist. Depending on whether the corrective action is successful the source will be required to perform a method 9 to demonstrate compliance or to log the corrective action taken and return to the weekly monitoring of emissions opacity.

The emissions from exhaust stacks shall be observed visually at least once each calendar month for at least a brief time period during normal operations to determine if they have above normal visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having above normal visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. If an emission point is not operated during the calendar month, then no visible emission observation needs to be performed and a negative declaration shall be entered in the record stating the emission unit was not in operation. Should emission point operation be limited or intermittent, and/or adverse conditions (e.g. weather or darkness) prevail during the limited or intermittent operating period, no visible emission observation needs to be performed and a negative declaration shall be entered in the record along with the date(s) of operation, the hours of operation of the emission unit and a notation indicating inclement weather.

Condition 8 of the October 27, 2003 NSR permit (Condition IV.A.6. of the Title V permit):
Limitations: Short-term emission limits from the operation of the simple cycle combustion turbine (CT) while fired on No. 2 distillate fuel oil shall not exceed the limits specified below (except during start-up, shutdown and malfunction conditions):

PM	1.7 x 10^{-2}lbs/10^{6} BTU	17.0 lbs/hr
PM10	1.7 x 10^{-2}lbs/10^{6} BTU	17.0 lbs/hr
SO2	5.4 x 10^{-2} lbs/10^{6} BTU	105.0 lbs/hr
VOC		7.5 lbs/hr
Carbon monoxide		97.0 lbs/hr
Nitrogen oxides (with FBN)		505.0 lbs/hr
	*42 ppmdv @ 15% O_2	(1-hour average)

*See Condition 14 for FBN addition.

Monitoring and Recordkeeping:

An initial performance test was performed on 4/16-18/01 and demonstrated compliance with the NOx, CO and PM10 emission limits.

An EPA Method 9 was conducted during the initial performance test (4/16-18/01) and was demonstrated no opacity was observed during the (2) 3-hr visible emissions evaluations.

The nitrogen oxide emission monitor required by this permit, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine compliance with the NO_x emission limits and/or relevant emission standards. Each monitor is subject to such data capture requirements and/or quality assurance requirements as specified in this permit and as may be deemed appropriate by the Board (40 CFR 75).

Nitrogen oxide emissions when firing No. 2 distillate fuel oil shall not exceed 42 ppmd at 15% O_2 on a 1 - hour average basis (as measured by CEMs), when fuel bound nitrogen (FBN) values are less than or equal to 0.015 percent. For fuel bound nitrogen values up to 0.05 percent (the maximum FBN allowed), the adjusted standard shall be determined, recorded and maintained upon each new fuel delivery by the following formula:

STD = (0.04 * N) + 0.0042 where:

STD = allowable NO_x emissions (percent by volume at 15 percent 0_2 and on a dry basis)
N = the nitrogen content of the fuel oil (% by weight)
Note: 0.0042 percent = 42 ppm

Compliance with Hourly Emission Limitations:
The hourly emission limits in the NSR permits were established based on the worst case scenario of the emission units and/or operating at their maximum rated capacity on an hourly basis. Therefore, if each of the emission units are operated at their maximum rated capacity and/or worst case scenario (and not beyond each of the emission units's maximum rated capacities), there should not be a violation of the hourly emission rates.

Also, the NO_X emissions are monitored based on CEMs.

In addition, the opacity standards/limitations will help to ensure the hourly emission limitations are being met. The source will be required to log the appearance of the vented emissions from the various operations and institute corrective action when visible emissions exist. Depending on whether the corrective action is successful the source will be required to perform a method 9 to demonstrate compliance or to log the corrective action taken and return to the weekly monitoring of emissions opacity.

Condition 9 of the October 27, 2003 NSR permit (Condition IV.A.7 of the Title V permit):
Limitations: In conjunction with stack tests and based on the DEQ's Piedmont Regional Office's (PRO) approval, the permittee's definitions of start-up and shut down shall be defined as follows:

Startup is the time from "flame on" plus 1 hour rounded to the next clock hour. Shutdown is the time the "stop" command is given plus 1 hour rounded to the next clock hour.
Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition no. 27 of the October 27, 2003 NSR permit (condition no. IV.B.6. in the Title V permit) to:

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

In the program for the CEM the flame is tracked for when it is on and when the stop command is given. It is recorded through the DAHS and the plant data system.

Condition 10 of the October 27, 2003 NSR permit (Condition IV.A.8. of the Title V permit):
Limitations: Annual emissions from the permittee's Simple Cycle Combustion Turbine Facility shall not exceed the limits specified below:

PM	11.0 tons/yr
PM10	11.0 tons/yr
SO2	26.6 tons/yr
VOC	4.0 tons/yr
Carbon monoxide	46.0 tons/yr
Nitrogen oxides	162.2 tons/yr

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition nos. IV.B.1., 2., 3., 5., A.9., 10., and B.6 (condition nos. 21, 22, 23, 25, 12, 13 and 27 of the October 27, 2003 NSR permit) in the Title V permit to:

Condition no. 21:
The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted twice per calendar year during the first and third quarter of each year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. **Records** associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.

Condition no. 22:
The permittee shall test the No.2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. **Records** of fuel oil sulfur and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.

Condition no. 23:
Continuous emission monitoring (CEM) systems shall be installed on the simple cycle combustion turbine exhaust stack to measure and record the concentration of nitrogen oxides (measured as NO_x) emitted from the simple cycle combustion turbine (CT) exhaust stack. Each nitrogen oxide emissions monitor shall be co-located with an O_2 monitor.

a. The monitors shall be located, maintained, and calibrated in accordance with performance specifications and test procedures identified in 40 CFR 75. The quality assurance of data generated by the CEMs shall be demonstrated by implementing or exceeding the minimum requirements for CEM quality assurance as defined in 40 CFR 75.

b. The Piedmont Regional Office (PRO) of the DEQ shall be notified in writing at least thirty (30) days prior to the demonstration of the continuous monitoring system performance. Subsequent similar notification requirements are to be submitted to the Piedmont Regional Office (PRO) of the DEQ.

Condition no. 25:
In the event of a nitrogen oxide CEM failure, the permittee must either:

a. Use the maximum allowable hourly NO_x emission rate (including excess fuel bound nitrogen), for each hour of operation where CEM data is not available. This data shall

be included in the rolling 365 day emission summation; or

b. Estimate emissions as stated in 40 CFR 75 subpart D.

Condition no. 12:
The simple cycle combustion turbine shall consume no more than the heat input quantity of natural gas and No. 2 distillate oil fuel annually, calculated daily as the sum of each consecutive 365 day period, as follows:

a. Total heat input to the simple cycle combustion turbine shall not exceed 3,993,000 mmBTU (HHV) per year for No. 2 distillate oil and natural gas (100,000 BTU/100 scf of natural gas).

b. Total heat input from the combustion of No. 2 distillate oil in the simple cycle combustion turbine shall not exceed 1,076,700 mmBTU (HHV) per year (138,000 BTU/gallon).

Condition no. 13:
The combined annual nitrogen oxides emission rate for a combination of natural gas and low sulfur fuel oil for the simple cycle combustion turbine shall not exceed a total of 162.2 tons per year, calculated daily as the sum of each consecutive 365 day period.

Condition no. 27
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Condition 12 of the October 27, 2003 NSR permit (Condition IV.A.9. of the Title V permit):
Limitations: The simple cycle combustion turbine shall consume no more than the heat input quantity of natural gas and No. 2 distillate oil fuel annually, calculated daily as the sum of each consecutive 365 day period, as follows:

a. Total heat input to the simple cycle combustion turbine shall not exceed 3,993,000 mmBTU (HHV) per year for No. 2 distillate oil and natural gas (100,000 BTU/100 scf of natural gas).

b. Total heat input from the combustion of No. 2 distillate oil in the simple cycle combustion turbine shall not exceed 1,076,700 mmBTU (HHV) per year (138,000 BTU/gallon).

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition no. 27 of the October 27, 2003 NSR permit (condition no. IV.B.6. in the Title V permit):

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Condition 13 of the October 27, 2003 NSR permit (Condition IV.A.10. of the Title V permit):
Limitations: The combined annual nitrogen oxides emission rate for a **combination** of **natural gas and low sulfur fuel oil** for the simple cycle combustion turbine shall not exceed a total of 162.2 tons per year, **calculated daily** as the sum of each consecutive 365 day period. **Monitoring and Recordkeeping:** Monitoring will be as according to the monitoring for condition nos. 25, 29, 27 and 26 of the October 27, 2003 NSR permit (condition no. IV.B.5, 7., 6., and C.1. in the Title V permit) as follows. **Reporting:** Reporting will be as according to condition no. 26 of the October 27, 2003 NSR Permit (Condition no. IV.C.1 in the Title V Permit).

Condition no. 25:

In the event of a nitrogen oxide CEM failure, the permittee must either:

a. Use the maximum allowable hourly NO_x emission rate (including excess fuel bound nitrogen), for each hour of operation where CEM data is not available. This data shall be included in the rolling 365 day emission summation; or

b. Estimate emissions as stated in 40 CFR 75 subpart D.

Condition no. 29:

The nitrogen oxide emission monitor required by this permit, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine compliance with the NO_x emission limits and/or relevant emission standards. Each monitor is subject to such data capture requirements and/or quality assurance requirements as specified in this permit and as may be deemed appropriate by the Board (40 CFR 75).

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Condition no. 26
The permittee shall submit quarterly excess emission reports to the Piedmont Regional Office (PRO) of the DEQ within 30 days after the end of each calendar quarter or semi-annually as needed. Details of the quarterly reports are to be arranged with the Piedmont Regional Office (PRO). Each quarterly report shall cover, at a minimum, the dates included in the calendar quarter and provide the following information for each day in the quarter, report each hour in which a nitrogen oxides permit limit is exceeded, copy

of the written notification and corrective action taken. The report shall include the following for each excess emission of nitrogen oxides (NO_x): start time, duration, equipment involved, actual NO_x emissions in ppmdv @ 15% O_2, fuel type and consumption rate in BTUs, nitrogen content of fuel oil (if oil-fired) and the simple cycle combustion turbine (CT) load. If, during the calendar quarter, there are no times when a nitrogen oxides permit limit is exceeded, the permittee shall state in the quarterly report that no such events occurred during the affected calendar quarter.

Condition 14 of the October 27, 2003 NSR permit (Condition IV.A.11 of the Title V permit):
Limitations: Nitrogen oxide emissions **when firing No. 2 distillate fuel oil** shall not exceed 42 ppmd at 15% O_2 on a 1 - hour average basis (as measured by CEMs), when fuel bound nitrogen (FBN) values are less than or equal to 0.015 percent. For fuel bound nitrogen values up to 0.05 percent (the maximum FBN allowed), the adjusted standard shall be determined, **recorded** and maintained upon each new fuel delivery by the following formula:

$$STD = (0.04 * N) + 0.0042$$ where:

STD = allowable NO_x emissions (percent by volume at 15 percent 0_2 and on a dry basis)
N = the nitrogen content of the fuel oil (% by weight)
Note: 0.0042 percent = 42 ppm

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition nos. 22 and 29 of the October 27, 2003 NSR permit (condition no. IV.B.2. and C.1. in the Title V permit):

Condition no. 22:
The permittee shall test the No.2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. **Records** of fuel oil sulfur and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.

Condition no. 29:
The nitrogen oxide emission monitor required by this permit, the continuous monitoring data, and the quality assurance data shall, at the discretion of the Board, be used to determine compliance with the NO_x emission limits and/or relevant emission standards. Each monitor is subject to such **data capture requirements** and/or quality assurance requirements as specified in this permit and as may be deemed appropriate by the Board (40 CFR 75).

Reporting: Reporting will be as according to condition no. 26 of the October 27, 2003 NSR Permit (Condition no. IV.C.1. of the Title V Permit).

Condition no. 26:
The permittee shall submit quarterly excess emission reports to the Piedmont Regional Office (PRO) of the DEQ within 30 days after the end of each calendar quarter or semi-annually as needed. Details of the quarterly reports are to be arranged with the Piedmont Regional Office (PRO). Each quarterly report shall cover, at a minimum, the dates included in the calendar quarter and provide the following information for each day in the quarter, report each hour in which a nitrogen oxides permit limit is exceeded, copy of the written notification and corrective action taken. The report shall include the following for each excess emission of nitrogen oxides (NO_x): start time, duration, equipment involved, actual NO_x emissions in ppmdv @ 15% O_2, fuel type and consumption rate in BTUs, nitrogen content of fuel oil (if oil-fired) and the simple cycle combustion turbine (CT) load. If, during the calendar quarter, there are no times when a nitrogen oxides permit limit is exceeded, the permittee shall state in the quarterly report that no such events occurred during the affected calendar quarter.

Condition 15 of the October 27, 2003 NSR permit (Condition IV.A.12. of the Title V permit):
Limitations: The simple cycle combustion turbine shall not operate at less than conditions corresponding to 50 percent simple cycle combustion turbine design maximum load corrected to ambient conditions, except during start-up, shut down, malfunction and emergency situations. **Monitoring and Recordkeeping:** Monitoring will be as according to the monitoring for condition 27 and 9 of the October 30, 2003 NSR permit (Condition no. IV.B.6. and A.7.in the Title V permit to:

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Doswell Limited Partnership monitors the “% of the maximum load of the combustion turbine” by the control panel denoting the “% of the maximum load of the combustion turbine”.

Condition no. 9:
In conjunction with stack tests and based on the DEQ’s Piedmont Regional Office’s (PRO) approval, the permittee’s definitions of start-up and shut down shall be defined as follows:

Startup is the time from “flame on” plus 1 hour rounded to the next clock hour. Shutdown is the time the “stop” command is given plus 1 hour rounded to the next clock hour.

Condition 16 of the October 27, 2003 NSR permit (Condition IV.A.13. of the Title V permit):

Limitations: The approved fuels for the simple cycle combustion turbine are pipeline quality natural gas (natural gas that is provided by a supplier through a pipeline) (primary fuel) and No. 2 distillate fuel oil (back-up fuel). Distillate oil is defined as fuel oil that meets the specifications for Fuel Oil Numbers 1 or 2 under the American Society for Testing and Materials, ASTM 396-78 Standard Specification for Fuel Oils, or other approved ASTM method, incorporated in 40 CFR 60 by reference. A change in the fuels may require a permit to modify and operate.
Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition no. 22 of the October 27, 2003 NSR permit (condition no. IV.B.2. in the Title V permit):

Condition no. 22:
The permittee shall test the No.2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. **Records of fuel oil sulfur** and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.

Condition 17 of the October 27, 2003 NSR permit (Condition IV.A.14. of the Title V permit):
Limitations: The maximum sulfur content of the natural gas to be burned in the simple cycle combustion turbine (CT) shall not exceed one (1) grain per 100 dry standard cubic feet. **Monitoring and Recordkeeping:** Monitoring will be as according to the monitoring for condition no. 21 of the October 27, 2003 NSR permit (condition no. IV.B.1. in the Title V permit):

Condition no. 21:
The permittee shall monitor the sulfur content of the natural gas being fired in the simple cycle combustion turbine (CT), in accordance with the custom-monitoring schedule approved for the site. Specifically, sulfur content sample analysis shall be conducted twice per calendar year during the first and third quarter of each year. If any sulfur analysis indicate noncompliance with 40 CFR 60.333 the owner or operator shall notify the US EPA Regional Office Air Division of such excess emissions and the custom fuel monitoring schedule shall be conducted weekly during the interim period when this schedule is being re-examined. A change in the fuel supply shall also cause a review of the custom fuel-monitoring schedule. **Records** associated with the custom fuel-monitoring schedule shall be retained for a period of five (5) years.

Condition 18 of the October 27, 2003 NSR permit (Condition IV.A.15. of the Title V permit):
Limitations: The maximum sulfur content of the oil purchased to be fired in the simple cycle combustion turbine shall not exceed 0.05 weight percent per shipment.
Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition no. 22 of the October 27, 2003 NSR permit (condition no. IV.B.2. in the Title V permit):

Condition no. 22:
The permittee shall test the No.2 distillate fuel oil for sulfur and nitrogen content on each occasion that fuel is transferred (as referenced in Appendix A of 40 CFR 60) to the storage tank, from any other source. Fuel oil sulfur content shall be determined using ASTM D2880-78 or another approved ASTM method incorporated in 40 CFR 60 by reference. Fuel oil nitrogen content shall be determined by following current ASTM procedures approved by the Administrator of the US EPA. Initial test methods and changes to test methods used by the permittee to determine sulfur and nitrogen content shall be submitted to and approved by the Piedmont Regional Office (PRO) of the DEQ. **Records** of fuel oil sulfur and nitrogen content shall be available on site for inspection by DEQ personnel. They shall be kept on file for the most current five-year period.

Condition 19 of the October 27, 2003 NSR permit (Condition IV.A.16. of the Title V permit):
Limitations: Visible emissions (VE) from the simple cycle combustion turbine (CT) exhaust stack shall not exceed ten (10) percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed twenty (20) percent opacity as determined by the Environmental Protection Agency's (EPA) Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction. **Monitoring and Recordkeeping:** Monitoring will be as according to the monitoring for condition 27 of the October 27, 2003 NSR permit and additional periodic monitoring (condition no. IV.B.6. and 9 in the Title V permit) as follows:

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Additional Periodic Monitoring: (Condition no. IV.B.9. of the Title V Permit)
The emissions from exhaust stacks shall be observed visually at least once each calendar month for at least a brief time period during normal operations to determine if they have above normal visible emissions (does not include condensed water vapor/steam), unless a 40 CFR 60 Appendix A Method 9 visible emissions evaluation is performed on the emissions unit. Each emissions unit observed having above normal visible emissions shall be followed up with a 40 CFR 60 Appendix A Method 9 visible emissions evaluation unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. If

an emission point is not operated during the calendar month, then no visible emission observation needs to be performed and a negative declaration shall be entered in the record stating the emission unit was not in operation. Should emission point operation be limited or intermittent, and/or adverse conditions (e.g. weather or darkness) prevail during the limited or intermittent operating period, no visible emission observation needs to be performed and a negative declaration shall be entered in the record along with the date(s) of operation, the hours of operation of the emission unit and a notation indicating inclement weather.

Condition no. 20 will be part of the **facility wide conditions** (Condition no. V.A.1. in the Operating Permit).
The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Test ports shall be provided at the appropriate locations.
(9 VAC 5-50-30 F)

Condition 23 of the October 27, 2003 NSR permit (Condition IV.B.3. of the Title V permit):
Limitations: Continuous emission monitoring (CEM) systems shall be installed on the simple cycle combustion turbine exhaust stack to measure and record the concentration of nitrogen oxides (measured as NO_x) emitted from the simple cycle combustion turbine (CT) exhaust stack. Each nitrogen oxide emissions monitor shall be co-located with an O_2 monitor.

a. The monitors shall be located, maintained, and calibrated in accordance with performance specifications and test procedures identified in 40 CFR 75. The quality assurance of data generated by the CEMs shall be demonstrated by implementing or exceeding the minimum requirements for CEM quality assurance as defined in 40 CFR 75.

b. The Piedmont Regional Office (PRO) of the DEQ shall be notified in writing at least thirty (30) days prior to the demonstration of the continuous monitoring system performance. Subsequent similar notification requirements are to be submitted to the Piedmont Regional Office (PRO) of the DEQ.

Monitoring and Recordkeeping: Monitoring will be as according to the monitoring for condition nos. 24, 25 and 27 of the October 27, 2003 NSR permit (condition nos. IV.B.4., 5., and 6. in the Title V permit):

Condition no. 24:
The nitrogen oxides CEMs required by this permit shall meet a minimum data capture of 90 percent of the simple cycle combustion turbine (CT) facility operating hours, calculated quarterly as the sum of each consecutive four quarters. The CEM availability shall be calculated as follows:

$$A^* = \frac{\sum Hc}{\sum Ho} \times 100$$

Where:
A* :is the percent of time that the CEM was available,
Hc:is the number of hours the CEM collected valid data and
Ho:is the number of hours that the simple cycle combustion turbine operated.

* The hours of valid data and the operating hours shall be summed over the most recent four quarters.

The NOx emissions shall be less than or equal to the calculated allowable limit 95% of the time (excluding periods of start-up, shut down and malfunction). The percent of the time that emissions are less than or equal to allowable limits shall be calculated as follows:

$$C^* = \left(1 - \frac{\sum He}{\sum Hv}\right) \times 100$$

Where C is the percent of time that emissions are less than or equal to allowable limits,

H_e is the number of hours that emissions are greater than allowable limits, and
H_v is the number of hours that the CEM was collecting valid data.

*** The number of hours that emissions are greater than allowable limits and the hours of valid data shall be summed over the most recent four quarters.**

Condition no. 25:
In the event of a nitrogen oxide CEM failure, the permittee must either:

a. Use the maximum allowable hourly NO_x emission rate (including excess fuel bound nitrogen), for each hour of operation where CEM data is not available. This data shall be included in the rolling 365 day emission summation; or

b. Estimate emissions as stated in 40 CFR 75 subpart D.

Condition no. 27:
The permittee shall maintain records of all emission data, fuel throughputs and operating parameters required to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Piedmont Regional Office (PRO) of the DEQ.

Reporting shall be as according to condition no. 26 of the October 27, 2003 NSR Permit (Condition no. IV.C.1. in the Title V permit).

Condition no. 26:
The permittee shall submit quarterly excess emission reports to the Piedmont Regional Office (PRO) of the DEQ within 30 days after the end of each calendar quarter or semi-annually as needed. Details of the quarterly reports are to be arranged with the

Piedmont Regional Office (PRO). Each quarterly report shall cover, at a minimum, the dates included in the calendar quarter and provide the following information for each day in the quarter, report each hour in which a nitrogen oxides permit limit is exceeded, copy of the written notification and corrective action taken. The report shall include the following for each excess emission of nitrogen oxides (NO_x): start time, duration, equipment involved, actual NO_x emissions in ppmdv @ 15% O_2, fuel type and consumption rate in BTUs, nitrogen content of fuel oil (if oil-fired) and the simple cycle combustion turbine (CT) load. If, during the calendar quarter, there are no times when a nitrogen oxides permit limit is exceeded, the permittee shall state in the quarterly report that no such events occurred during the affected calendar quarter.

Condition 28 of the October 30, 2003 NSR permit (Condition IV.A.17. of the Title V permit):
Limitations: Except as specified in this permit the simple cycle combustion turbine (CT) is to be operated in compliance with all applicable requirements of 40 CFR Part 60, Subpart GG - Standards of Performance for Stationary Gas Turbines. **Monitoring and Recordkeeping:** Monitoring and recordkeeping will be as discussed under the NSPS Section.

Testing

The permit does not require the source to test as the most important pollutants, NOx is monitored continously and SO2 is minimized by the use of very low sulfur No. 2 and Natural Gas fuels. This results in reduced overall emissions as the control system corrects in real time to minimize NOx. A table of test methods has been included in the permit if testing is performed. The Department and EPA has authority to require testing not included in this permit if necessary to determine compliance with any applicable emission limit or standard. The table of test methods is included below:

The following table is only required for those pollutants that have emission limits.

Pollutant	Test Method (40 CFR Part 60, Appendix A)
VOC	EPA Methods 18, 25, 25a
VOC	EPA Methods 24, 24a
NOx	EPA Method 7, 20
SO2	EPA Method 6, 20
CO	EPA Method 10
PM/PM10	EPA Methods 5, 17
Visible Emission	EPA Method 9

(9 VAC 5-80-490 E & F)

Streamlined Requirements - NA

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-490 apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general condition cite(s) the Article(s) that follow(s):
Article 1 (9 VAC 5-80-360 et seq.), Part II of 9 VAC 5 Chapter 80, Article 3. Acid Rain Operating Permits for Stationary Sources]

This general condition cites the sections that follow:
9 VAC 5-80-430. Application
9 VAC 5-80-500. Permit Shield
9 VAC 5-80-510. Action on Permit Applications]

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-650 of the Acid Rain Operating Permit regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-650 is from the Acid Rain Operating Permit regulations. Acid Rain Operating facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-650. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

This general condition cites the sections that follow:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
9 VAC 5-40-50. Notification, Records and Reporting

9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

J. Permit Modification

This general condition cites the sections that follow:
9 VAC 5-80-360. Applicability, Acid Rain Operating Permits
9 VAC 5-80-550. Changes to Permits.
9 VAC 5-80-660. Enforcement.
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-650 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:
9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-490. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

The following condition has been identified as State Enforceable only as per the October 30, 2003 NSR permit in regards to the State Citation of 9 VAC 5-50-180:

From the October 30, 2003 NSR Permit Condition Number 23:

Toxics pollutant emissions from each combustion turbine/duct burner exhaust shall not exceed the limitations specified below:

Beryllium	0.004 lbs/hr/stack	0.09 lbs/day/stack
Formaldehyde	0.609 lbs/hr/stack	14.60 lbs/day/stack
Nickel	0.255 lbs/hr/stack	6.13 lbs/day/stack

The TSP limits were changed to PM (TSP) so as to reflect the Virginia PSD regulation definition of Particulate Mater as PM (TSP) for the significance levels used in PSD determinations and in other parts of the state regulations. PM (TSP) is equal to PM10 in all the limitations in the NSR permit and

Draft Title V permit.

FUTURE APPLICABLE REQUIREMENTS - NA

INAPPLICABLE REQUIREMENTS -The acid rain program does not apply to the combined cycle facility. The reason being is the combined cycle was exempt from the program because it had a contract with VA Power dated before the Acid Rain Program was finalized.

COMPLIANCE PLAN - NA

RISK MANAGEMENT PLAN

The facility Risk Management Plan was submitted on June 17, 1999.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-720.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation (9 VAC_)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
1	Ammonia Storage	5-80-720 B.	Ammonia	10,000 gal. Each
2	Ammonia Storage	5-80-720 B.	Ammonia	10,000 gal. Each
N/A	Water Treatment Facility	5-80-720 A. 43	N/A	N/A

Combustion air heats water in the Heat recovery steam generator (HRSG), which turns the two steam turbines. Grey and potable water from Hanover County are treated on-site for use as boiler water and steam for emission control. Additionally, anhydrous ammonia is stored on-site for use in the SCR unit.

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION - NA

PUBLIC PARTICIPATION

The proposed permit will be place on public notice in the Richmond Times Dispatch from November 22, 2003 to December 21, 2003 .